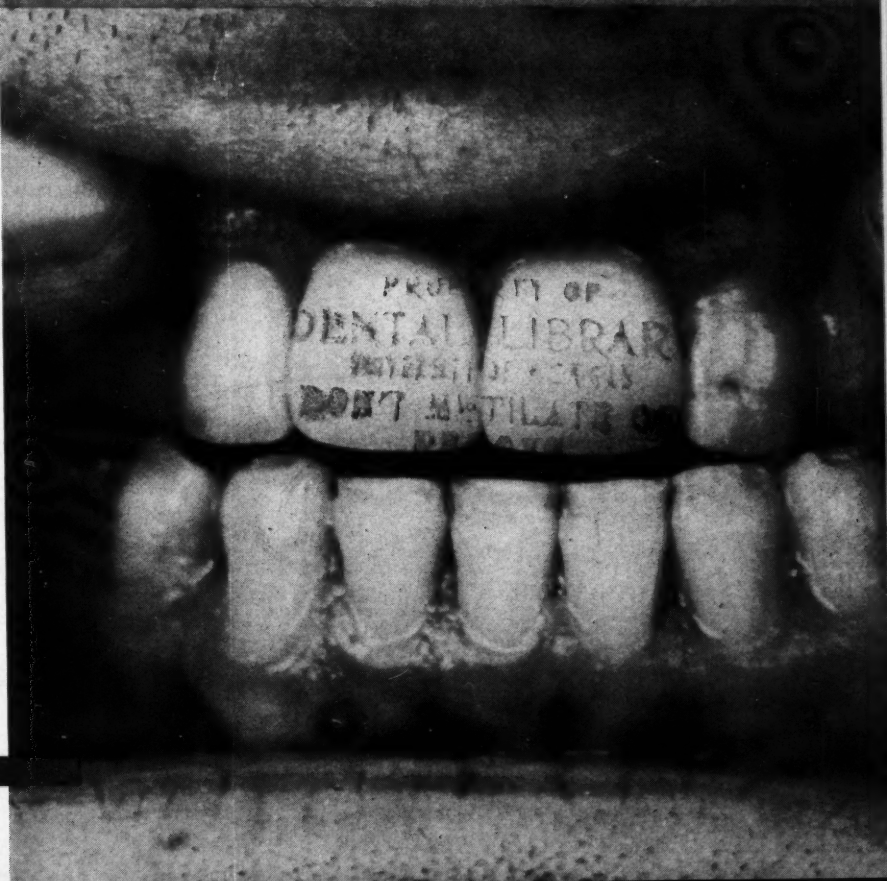




BEFORE   AFTER



## February 1948

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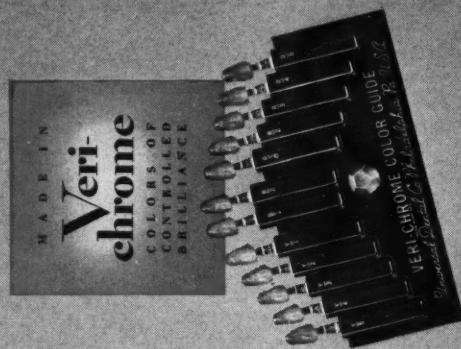
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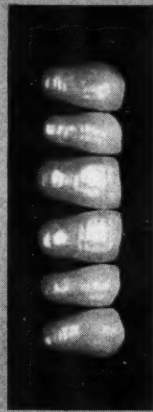
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# FIVE-PHASE

A N T E R I O R S

UNIVERSAL DENTAL COMPANY, 3000 CHERRY STREET, PHILADELPHIA, PA.

# Dental Digest

## FEBRUARY 1948

### About Our

### CONTRIBUTORS

MATTHEW LOZIER, B.S., D.D.S. (New York University College of Dentistry, 1923) was formerly an instructor in oral surgery, New York Postgraduate Medical College Hospital. His practice of oral surgery has yielded many papers on a wide range of subjects for publication. A NEW APPROACH IN ANESTHESIA OF PALATAL TISSUE is a technique for relatively painless anesthesia of the palate.

HARRY SNITOW, D.D.S. (New York University College of Dentistry, 1920) is a general practitioner on the dental staff of Sydenham Hospital in New York where he was formerly on the dental staff of Mt. Sinai Hospital. Some of the laboratory values considered in the diagnosis of both medical and dental diseases are presented in table form by Doctor Snitow with the collaboration of the hospital's Pathology Department. Familiarity with the interpretation of abnormal values, in terms of their pathologic significance, should be within the horizon of the alert dentist.

FRED A. SLACK, JR., D.D.S. (University of Pennsylvania, School of Dentistry, 1932) reports EXPERIMENTS IN DIRECTIONAL POLYMERIZATION carried out in his research on plastics. These are an attempt to eliminate the dimensional change of methyl methacrylate denture bases during processing.

HYMAN S. TOBEY, B.S. (St. Louis University, 1941), D.D.S. (The Thomas W. Evans Dental Institute, University of Pennsylvania, 1945) is in general practice. In the prosthesis of an acquired cleft palate which he describes, Doctor Tobey was assisted and instructed by Doctor Frank A. Fox, Assistant Professor of Prosthetic Dentistry at the University of Pennsylvania, to whose collaboration he ascribes the success of the appliance used.

STEWART EVERSON, D.D.S. (Baltimore College of Dental Surgery, Dental School, University of Maryland, 1942) specializes in oral surgery. He is a member of the staff of Hollywood Presbyterian Hospital and Children's Hospital and Chief Oral Surgeon in Charge at Cedars of Lebanon Hospital. In his description of the use of chromic acid for Vincent's gingivitis, he stresses the greater wisdom of administering prophylaxis at an early stage of the disease over delaying treatment until extensive therapy is required.

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Copyright, 1948, by Dental Digest, Inc. See page 54 for subscription data, etc.  
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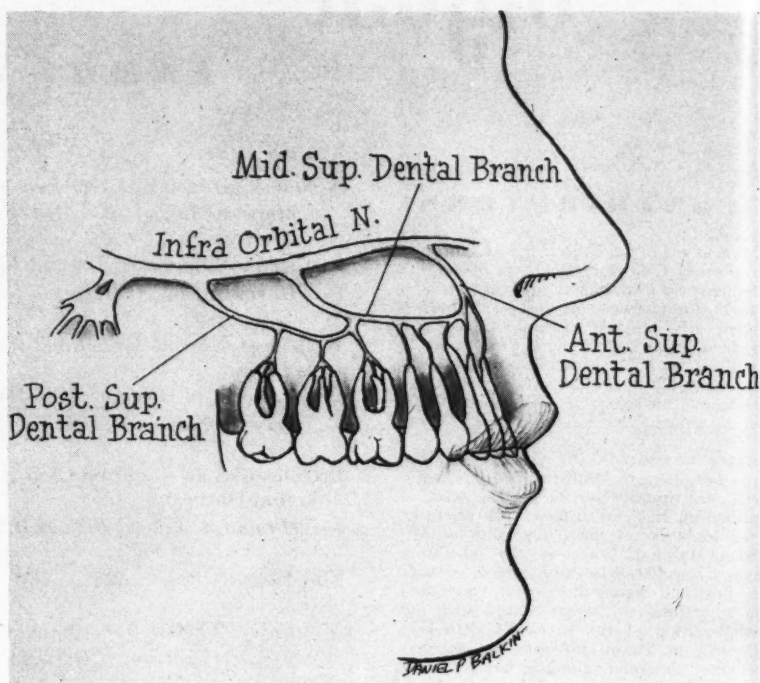
# A New Approach in Anesthesia of PALATAL TISSUE

MATTHEW LOZIER, B.S., D.D.S., New York

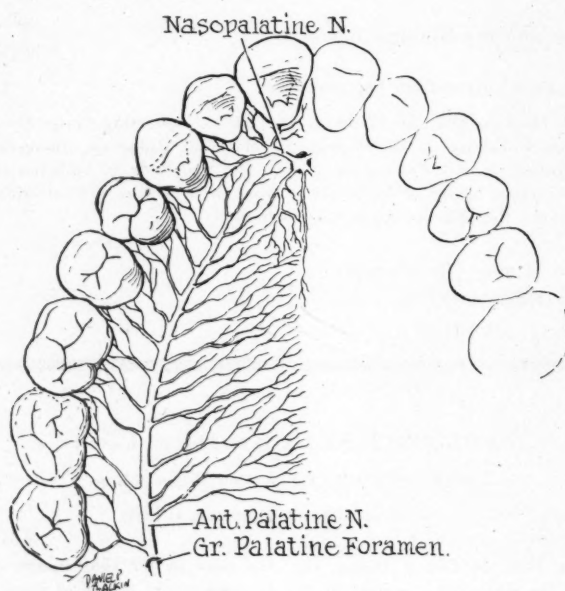
## DIGEST

*In the upper jaw a strip of soft tissue covers the entire length of the crest of the border of the alveolar process. The strip is identified as a structure permitting painless anesthetization of the palate.*

*The neuroanatomic explanation presented is this: The mucosa and periosteum of this particular region are supplied by the peripheral branches of both the alveolar and palatal nerves. The three alveolar nerves may be almost painlessly anesthetized at the mucobuccal fold. The terminal branches of the palatal nerves, which interlace closely at the crest of the border of the alveolar process with those of the alveolar nerves, may then be anesthetized by a second penetration in the labial or buccal mucosa of the alveolar border at the*



1. Principal nerves supplying the buccal and labial aspects of the upper jaw.



*point requiring anesthesia for operative purposes. The anesthetic solution diffuses, partly by osmosis, into the peripheral endings of the palatal nerve and permits painless supplementary anesthesia of the palate.*

## Anatomic Comparisons

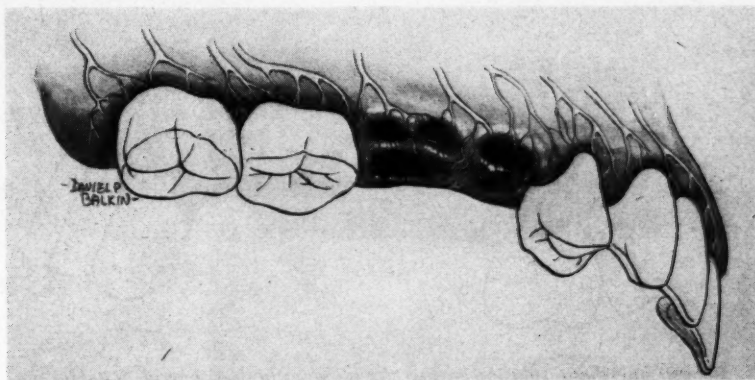
**Palatal Tissue**—It is common knowledge that penetration of palatal tissue with a hypodermic needle for the purpose of anesthesia and injection of the anesthetic solution are always accompanied by pronounced pain. The painful reaction occurs

2. Nerves supplying the palatal tissue.

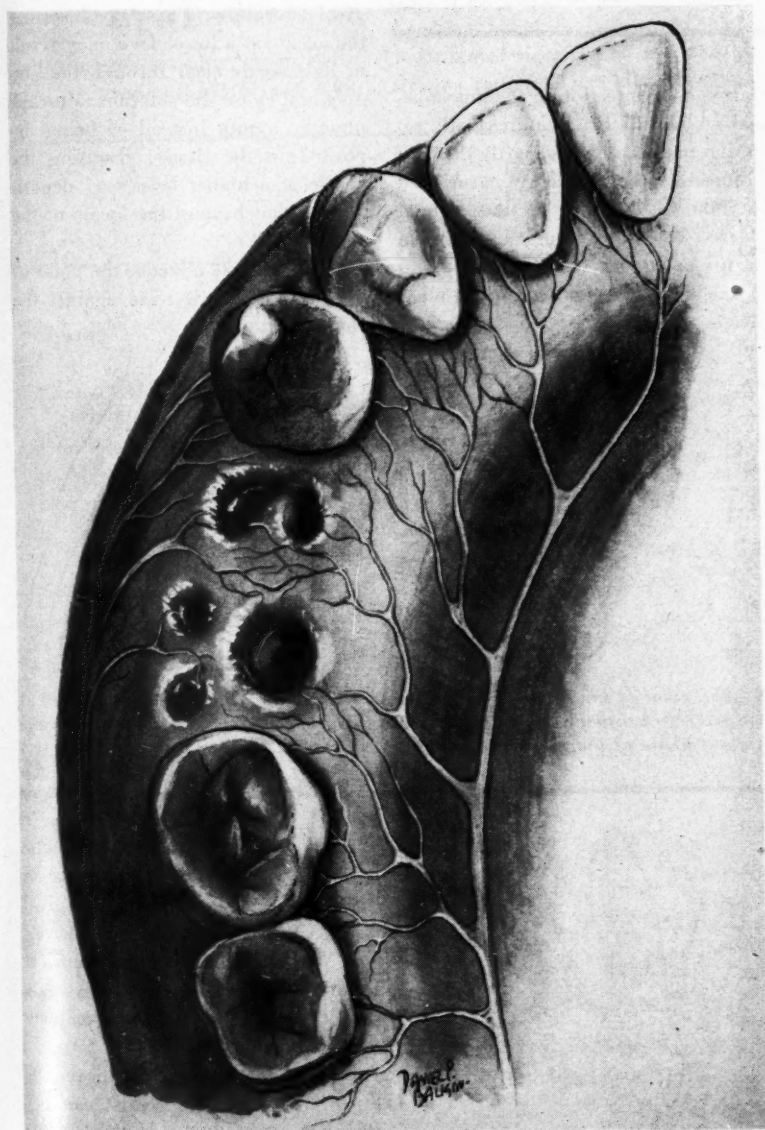
even though a topical anesthetic is properly preapplied, a thin gauge sharp needle employed, and a careful technique carried out.

The extremely tough fibrous texture of the palate resting closely against dense bone and a comparatively greater blood and nerve supply over that of the buccal and labial tissue perhaps explains this undesirable phenomenon.

**Labial and Buccal Tissues**—On the other hand, the locale for infiltration injections in both labial and buccal



**3. Peripheral branches of an alveolar nerve extending over the crest of the alveolar process.**



**4. Peripheral branches of an alveolar nerve interlacing with the peripheral branches of a palatal nerve.**

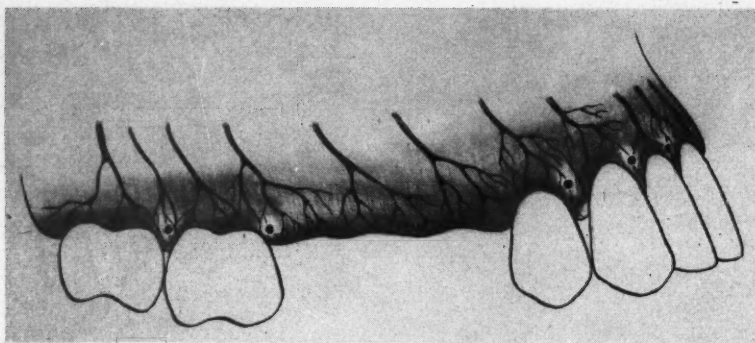
tissues is a structure of soft and elastic texture; it is not overrichly supplied with nerves and rests quite loosely against its supporting spongy bone.

This favorable anatomic arrangement permits virtually painless piercing, penetration, and injection into normal noninflamed tissue, provided a sharp needle of proper gauge is being used.

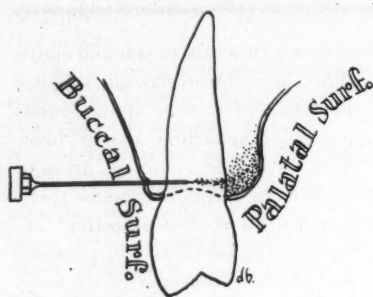
### **Disregarded Area of Palate**

**Strip of Soft Tissue**—That the buccal and labial aspects of the upper maxilla are being chiefly innervated by the superior posterior, middle, and anterior alveolar nerves (Fig. 1), and the palatal structure by the naso- and anterior palatine nerves (Fig. 2), are facts widely known and need hardly be repeated. However, the factor dealing with the nerve supply of the strip of soft tissue resting over the peak or crest of the border of the alveolar process, where the buccal and labial tissues join the palate (Fig. 3), has never before been discussed in the literature, to my best knowledge.

**Nerve Supply**—Inasmuch as this area (1) does not particularly constitute an anatomic entity, (2) does not apparently perform any specific physiologic function, and (3) is not being supplied by an independent nerve and blood source, the omission may be readily understood. When it is deduced, however, that the mucosa as well as the periosteum of this particular region are being supplied, partly through anastomosis, by the



**5.** Deposit anesthetic solution in the already anesthetized buccal or labial mucosa for the purpose of conveying it into the adjoining peripheral palatal nerves. Places for the deposit are indicated on the illustration.



**6.** The needle is directed at a right angle to the labial or buccal mucosa.

peripheral branches of both the alveolar and palatal nerves (Fig. 4), this strip of soft tissue assumes considerable importance, at least to the dental anesthetist.

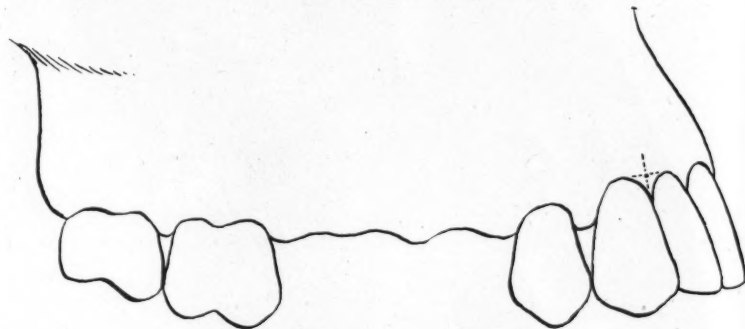
His interest may lie in the realization that initial painless penetration and infiltration of the highly sensitive palatal tissue can be readily accomplished, and for these reasons:

1. The three alveolar nerves can be anesthetized at the mucobuccal fold virtually without causing pain.

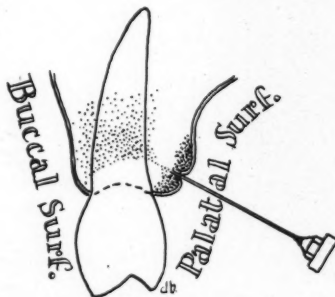
2. The terminal branches of these nerves interlace freely with the terminal branches of the palatal nerves in the mucosa and periosteum covering the entire length of the crest of the alveolar process.

**Anesthetization Process**—Thus, after the hypodermic needle pierces painlessly the appropriate portion of the mucosa in the alveolar border (Fig. 5) (innervated by the peripheral endings of the alveolar nerve which were previously anesthetized

through an injection in the mucobuccal or labial fold), the anesthetic solution readily diffuses, partly through osmosis, into the closely positioned peripheral endings of the palatal nerve. Any supplementary anesthesia of the palate can then be readily and painlessly effected in the routine manner accepted by anesthetists.



**7.** The point of the needle is to be inserted at the mesial interproximal space of the tooth to be operated on (in this case a cuspid). The level of insertion is the highest plane of the gingival curvature.



**8.** To complete anesthetization of the palate, reinsert the needle at the blanched (anesthetized) portion of the palatal gingiva.

## Technique

The following steps briefly describe this new approach in the anesthetization of palatal tissue:

1. Anesthetize the appropriate alveolar nerve through block or infiltration anesthesia.

2. Direct the hypodermic needle at a right angle to the labial or buccal gingival surface, as the case may indicate (Fig. 6).

3. Insert the point at the mesial interproximal space of the tooth to be operated on, exactly on a level with the highest plane of its (normal) gingival curvature (Fig. 7). (Inserting the needle at a lower level may result in its passage clear through the gingiva and cause the solution to escape into the mouth instead of being deposited in the tissue; inserting the needle at a higher level may deposit the solution beyond the locale of the anastomosis.)

4. Now boldly advance the point of the needle until it rests against the bone structure.

5. Slowly discharge the anesthetic solution. A noticeable blanching of the palatal portion of the gingival mucosa will be instantly noticed.

6. Withdraw the needle and reinsert it into the blanched tissue (over its palatal aspect) (Fig. 8). Complete the injection at this point.

By closely following the above-outlined procedure, the dentist can accomplish any palatal injection safely, adequately, and without a trace of pain.

369 East 149th Street.

# LABORATORY DIAGNOSTIC DATA

## of Interest to Dentists

HARRY SNITOW, D.D.S., New York City

### DIGEST

Dental conditions are an integral part of medical histories; like-

wise, the general physical condition is an integral part of dental health.

Unusual swelling of the dental tissues which leads a patient to

his dentist, for instance, may be proved on laboratory blood examination to have originated in leukemia; a periodontal dyscrasia may be due to anemia as

### BLOOD Chemical Composition (per 100 cc.)

	Normal	Pathologic Significance
Glucose	80-110 mg. %	Below 50: hypoglycemia Above 170: hyperglycemia
Plasma CO <sub>2</sub> (Combining Power)	53-77 Vol. % (alkali reserve)	Low in acidosis, diabetic acidosis; high in alkalosis
Urea nitrogen	8-18 mg. %	High in kidney disease; low in damaged liver
Nonprotein nitrogen	25-40 mg. % (twice urea nitrogen)	High in nephritis
Uric acid	2-4 mg. %	High in gout, eclampsia
Creatinine	1-2 mg. %	High in uremia (disturbed kidney metabolism)
Cholesterol	140-180 mg. %	Low in liver dysfunction, hyper- thyroidism; high in gallbladder disease
Cholesterol ester	80-110 mg. % (about 2/3 of cholesterol)	
Total serum protein (albumin and globulin)	5-8 %	High in acute nephritis and low in nephrosis
Albumin globulin ratio	1.5-1.0	
Icterus Index	4-6	High in impaired liver function
van den Bergh's (bilirubin) test	0.2-0.8 unit	
	} Liver function tests	
Calcium	9-11 mg. %*	
Phosphorus	1-4 mg. %†	
Acid phosphatase	0.4-0.8 Bodansky units	Elevated in cancer of the prostate
Alkaline phosphatase	2.0-6.0 Bodansky units	Elevated in cancer of the prostate, rickets, Paget's and gallbladder disease

\*Slightly higher in children.

†About 5 mg. % in children.

evidenced by low hemoglobin and color index; improper development of the teeth may be due to calcium and phosphorous deficiencies which can be uncovered through testing procedures.

Dental treatment of a patient suffering from leukemia might be disastrous; periodontics in the presence of anemia, futile; restorations in a case where a corrective diet was not instituted for severe calcium and phosphorous deficiencies, numerous. Surgery might cause extensive hemorrhage due to prolonged coagulation and bleeding time which could have been prepared for through simple blood tests.

In determining the severity of an infection, the study of the polymorphonuclear leucocytes or neutrophils is of special interest. These cells normally comprise from 55 to 65 per cent of the full white blood cell count. Of these, 47 to 57 per cent are mature cells with segmented nuclei; 8 per cent, immature cells or those with incompleated nuclei

## BLOOD

### Physical Composition and Characteristics

	Normal
Erythrocytes	4,500,000-5,000,000 per cu. mm.
Leucocytes	7,000-8,000 per cu. mm.
Hemoglobin	90-100%
Color Index	0.9-1.0
Coagulation Time	2-5 minutes
Bleeding Time	1-3 minutes
Differential Leucocyte Count	
Polymorphonuclear neutrophils (Band forms, 8%; segmented forms, 47-57%)	55-65%
Lymphocytes	25-35%
Mononuclear and transitional cells (Reticular endothelial cells)	3-5%
Eosinophils	1-2%
Basophils	1-2%
Blood platelets	150,000-300,000 per cu. mm.

*Severe infections: Increase in neutrophils in band forms; decrease in lymphocytes.*

*Blood Sedimentation: Frequently accelerated in acute suppuration, acute processes, late malignancy, pregnancy, and chronic diseases.*

## URINE

### Physical Characteristics and Physical and Chemical Composition

	Normal	Pathologic Significance
Amount in 24 hours	1200 - 1500 cc.	
Appearance	Amber	
Specific gravity	1.003 - 1.033	
Reaction	Slightly acid	
Albumin	None	
Sugar (dextrose-glucose)	None	Present in: { Kidney dysfunction Diabetes Diabetes Mellitus, starvation Diabetes
Acetone	None	
Diacetic acid	None	
Urea	20.0 - 30.0 grams	High in kidney disease; low in liver dysfunction
Urobilinogen	1+	Increased in blood destruction
Bile	None	Present: Only in obstruction of common duct
Casts (granular and hyaline)	None	Hyaline casts, especially, denote serious kidney dysfunction
White blood cells	None or rare	Present in: { Nephritis, bladder infections Nephritis, bladder infections Nephritis, bladder infections
Epithelial cells	Occasional	
Red blood cells (rare)	None	

## BASAL METABOLISM

Normal	Abnormal
+15 to -10	Less than -10: hypoactivity of thyroid
	More than +15: hyperactivity of thyroid

called band forms. An increase in the band form of neutrophils and a corresponding decrease in the segmented or mature cells indicate a severe infection that may terminate fatally.

It is important that the dentist avoid such preoccupation with technical dental procedures that he overlooks the relationship between dental conditions and medical history. Even though the physiologic values referred to in the chart do not always have a direct dental application, the

dentist who has occasion to examine medical records of his patients will be better able to understand associated medical conditions if he is oriented in these phases of physiology and physiologic chemistry. The figures presented here are in actual use in a hospital frequently confronted with dental diagnostic problems. Dentists on this staff are interested in the dental conditions of these cases as related to medical histories.

201 West 85th Street.

## Project on Correct Brushing of Teeth

A COMPREHENSIVE study of the effects of correct brushing of the teeth on tooth decay will be launched shortly in three Illinois communities. Doctor Robert G. Kesel, head of the department of materia medica and therapeutics, University of Illinois College of Dentistry, will be in direct charge of the project for which \$40,000 in University funds has been made available.

### Details of Study

The project will require instruction of teachers and classroom supervisors in the correct method of brushing the teeth as recommended by the American Dental Association.

**Procedure**—More than 2,000 pupils in the sixth and seventh grades will be required to brush their teeth

for two minutes under the supervision of the room teacher immediately after the opening of the morning and afternoon school period. Each pupil will be given a cup of water, a brush, and an individual package of tooth powder, sufficient for a single brushing of the teeth. Pupils will not be allowed to rinse their mouths after brushing so that the full effect of each of the three dentifrices used can be measured.

In addition to brushing their teeth after each evening meal and after all meals on Saturdays, Sundays, and other days when school is not in session, the children will be requested to brush their teeth just before going to bed at night.

**Dentifrices**—Three different dentifrices will be used:

1. A commonly used dentifrice containing soap and chalk as detergents to be prepared according to a formula provided by the Council on Dental Therapeutics of the American Dental Association.

2. A dentifrice containing dibasic ammonium phosphate and carbamide. (This dentifrice was developed recently by Doctor Kesel and his associates—Doctors Joseph O'Donnell, E. C. Wach, and E. R. Kirch—in a study of dental decay at the University of Illinois. In limited tests with university students, it was discovered that the inclusion of ammonium compounds in the dentifrice resulted in a sharp reduction of dental decay.)

3. The third will be the same type of dentifrice as the second, minus the dibasic ammonium phosphate and carbamide.

An equal number of children will use each dentifrice. Results will be compared with a fourth group of children who will receive a thorough dental examination and prophylaxis but will be allowed to brush their teeth according to their usual habits.

**Preliminary Examination**—At the start of the project in each community, the children taking part will be given a dental examination and a thorough prophylaxis by a group of dentists. The examination will include roentgenograms of all teeth.

**Intra-study Testing**—During the study, tests will be made at the University of Illinois laboratories of the amount of lactobacillus acidophilus in the saliva of each child as an indication of caries activity. Special stain tests will also be made to determine how efficiently pupils are brushing the tooth surfaces in the mouth.

### Conclusion

The study will continue over a period of two years. Results are expected to show (1) the relative merits of various dentifrices and (2) the value of supervised brushing of the teeth soon after eating as against haphazard brushing in the control of dental decay.

From *University of Illinois News* (October 21) 1947.

## Experiments in

# DIRECTIONAL POLYMERIZATION

FRED A. SLACK, Jr., D.D.S., Philadelphia

### DIGEST

*The dimensional change occurring between the tuberosities of upper dentures and the retromolar areas of lower dentures during processing is attributed to warping strains caused by the progress of polymerization in more than one direction at a time.*

*Experiments have been begun to develop a method of applying heat in such a way that polymerization proceeds in one direction only. In those experiments reported, a 75-watt soldering iron was inserted in a hole drilled in a conventional flask.*

*The results thus far obtained suggest a possible way of eliminating strained forces in dentures.*

### Theory of Dimensional Change

EFFORTS HAVE been made in the past either to correct or to eliminate dimensional change in methyl methacrylate denture bases during polymerization by (1) increasing or decreasing heat; (2) utilizing dry heat, or moist heat. But claims that time-heat factors or types of heat influence the dimensional change of methacrylates have never been substantiated; nor have claims for using high and low pressures, compression, or injection-molding. Actually, all these procedures have resulted in changing the density of the material only.

While the coefficient of contraction and expansion of methacrylate is negligible, other factors apparently change the linear dimension between the tuberosities of upper dentures and

the retromolar areas of lower dentures.

**Directional Heat**—It appears that if strains are present and if all strains occur at nearly the same time, one strain should ultimately counteract the other; thus a denture should process in the original form of the wax pattern or model. However, this does not occur. Processing procedures have ignored one significant factor: *All heat has been directed from the outside of the flask toward the inside of the flask.*

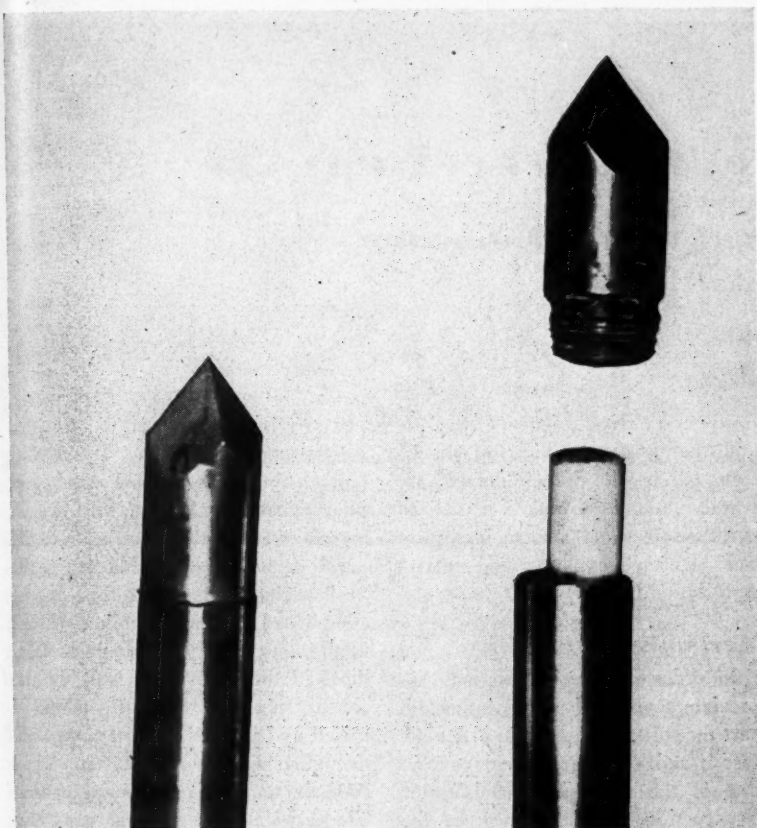
Even when thermocouples were introduced into the flask, the most intense heat traveled from the outside of the flask inward. This over-all application of heat, on complete polymerization, tended to strain the upper denture laterally from tuberosity to tuberosity and the lower denture from the retromolar area on one side to the corresponding area on the other side. If we could devise directional heat which would travel only in *one* direction, it might be possible to cause strains to be formed and then released in much the same manner as in the following example.

**Rationale**—If we freeze water in a bottle, the bottle will break. This is because expansion takes place uniformly. But if one could freeze successive small layers, from the bottom up, all the water might be frozen without breaking the bottle.

In like manner heat could be directed at one place in a flask and polymerization thus made to proceed slowly from one end to the other. Polymerization would be complete in certain sections of the denture while other sections were still soft; and all



1. Conventional flask with a hole drilled in it.



**2.** Seventy-five watt soldering iron used in experiments.

warping strains would be relieved.

**Experiments**—Bases were waxed up on a model and processed by means of a soldering iron tip (Figs. 1 and 2). The heat traveled from the tip of the soldering iron outward and arrived at the anterior part of the denture. This was proved by tests when the flask was opened at intervals during the processing.

It was found that two and one-half hours were necessary to process the denture base completely. Measurements taken of some dentures after they had been immersed in saline solution at 98° Fahrenheit for fourteen days, indicated no further changes; the cases all fitted accurately the metal model on which they had been processed. The test was repeated with dentures containing acrylic teeth and the results were the same.

The two-and-one-half hour processing with a soldering iron was repeated with a block one-fourth inch

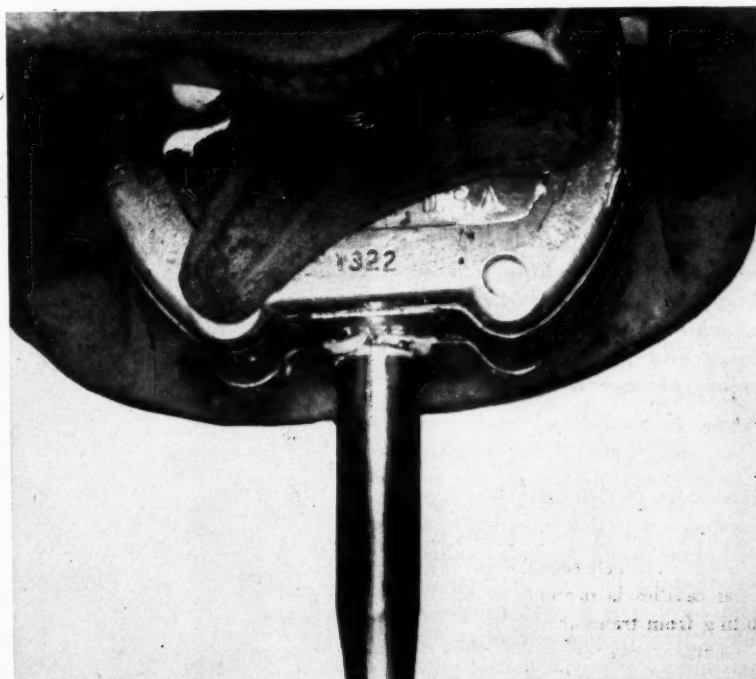
thick, the maximum thickness of a denture, and two by three inches in area. About 1½ units of denture material, the maximum required by a denture, were used. Processing with directional heat solidified the block and caused no porosity.

Upper dentures made on both metal and stone models were processed with directional heat. Those made on metal models could be replaced with a high degree of accuracy which previously had not been possible without distorting the denture base.

### **Comment**

These experiments are not complete. They merely mark the beginning of what is arbitrarily termed "directional polymerization," an effort to eliminate constricting strained forces in dentures.

32nd and Spring Garden Streets.



**3.** Complete assembly after routine test-packing of the denture flask. The flask is kept in the press and the 75-watt soldering iron screwed onto its tip. Two and one-half hours completes processing. Case is then plunged into cold water for fifteen minutes and deflasked.

**Note:** Do not let tip of iron contact side of flask!

# **Prosthesis of an ACQUIRED CLEFT PALATE**

## **with a Full Denture and Velum Obturator**

HYMAN S. TOBEY, B.S., D.D.S., Plainfield, New Jersey

### **DIGEST**

*A pin tube attachment is employed to connect a velum obturator to a maxillary denture in the prosthesis of this edentulous case of acquired cleft palate. The connector serves to balance, strengthen, and stabilize the velum obturator. This combination full denture and obturator is an appliance designed to make possible the restoration of normal tone quality and distinct articulation and to remove other handicaps, besides defective speech, suffered by patients with cleft palate.*

*The procedure for constructing this prosthetic device includes the taking of a perfect impression (to assure retention of the denture-bearing velum, through adhesion by contact and a perfect peripheral seal, and thus to prevent denture displacement during speaking and eating); the placement of the tube attachment in the maxillary denture; and the fashioning of a velum planned to fit accurately.*

THE ACQUIRED cleft palate may be defined as a defective condition of the roof of the mouth in which an abnormal opening between the oral and nasal cavities is present, usually resulting from trauma or disease. As a consequence of palatal clefts, patients experience such self-evident handicaps as difficulty in eating, wherein food and water often escape through the nose instead of through the normal channels of digestion; suscepti-

bility to nasopharyngeal diseases; and, the greatest handicap of all, defects in speech. Speech defects are readily understood when it is realized that the soft palate plays an important role in clear phonation and correct articulation.

### **Mechanism of Speech**

In order that the dentist may appreciate completely the important part the soft palate plays in articulate speech and also gain a clear conception of the principles of obturator construction, a brief review of the mechanism of speech is presented here.

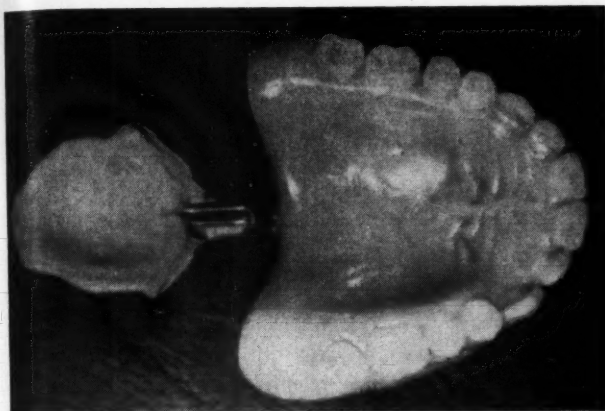
The principal organ for the production of voice is the pharynx. In

the act of expiring, air forced upwards by the lungs vibrates the vocal cords. As the air passes through the pharynx into the mouth, it is altered by the combined action of the soft palate, tongue, teeth, and cheek and pharyngeal muscles. In this act of speech it is clearly essential that the nasal cavity be separated from the oral cavity. This separation is accomplished by the combined action of the muscles of the soft palate and those of the pharyngeal wall. In the act of speaking, the soft palate is raised and pressed against the posterior pharyngeal wall. At the same time, the muscles of the posterior and lateral walls contract and draw together to meet the soft palate.

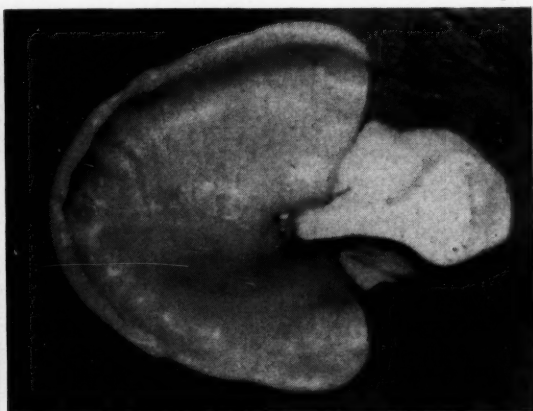
Thus, if the palate be defective, the air blasts enter and pass through the nasal cavity unaltered, the patient los-



**1. Extent of cleft involving soft and hard palate.**



**2.** Full denture with detachable velum. (Note split pin and tube attachment.)



**3.** Palatal view of denture with velum portion positioned.

es control of the vocal sounds, and as a result a peculiar type of speech develops which is mostly nasal and guttural.

### Case Report

The cleft palate case presented here involves the loss of the entire soft palate, part of the hard palate, and all of the teeth. The purpose of this report is to describe a type or design of appliance which will serve as a successful aid in the restoration of normal speech and overcome the other handicaps suffered by patients with this deformity. An attempt has been made to show that in such a case (1) the appliance need not be cumbersome or bulky and (2) stability of the denture is not impossible, as some investigators believe.

**Observations**—A Negro, 63 years of age, came into the prosthetics clinic of the University of Pennsylvania in December 1944. His speech was guttural and difficult to comprehend. The pronunciation of the vowel elements was rather distinct but nasal in tone. On oral examination, absence of the soft palate and a perforation of the posterior portion of the hard palate were observed (Fig. 1). The tissue surrounding the cleft appeared healthy and normal. The mouth had been edentulous for about ten years and, on questioning, the patient stated that he frequently experienced regurgitation of food into the nasal cavity when eating and drinking.

**Previous History**—The patient had had syphilis and, in 1924, the whole palatal area, involving a gummatous lesion occurring in the tertiary stage, had sloughed out, forming the cleft. (This is a frequent occurrence inasmuch as a gumma has a predilection for such intramembranously formed bone as that in the palate.) In 1936 the patient's Wassermann reaction was negative and again in 1944 on his first visit to the clinic it was negative.

### Reconstruction Procedure

**Impression**—The cleft was first covered with cotton packing to keep modeling compound out of the nasal chambers; for pieces of compound allowed to get caught in this area would prove most difficult to remove.

1. A snap modeling compound impression was taken of the maxilla. A small degree of muscle-trimming was done.

2. A model was poured and an aluminum tray then cut to fit over the maxillary ridges. A modeling tray was then adapted to the cast, compound which filled the cleft was trimmed off, and with this tray in the mouth, an accurate impression was obtained just as though the cleft were not there.

3. A postdam in wax was made by adding a small layer of green carding wax on the posterior portion and around the edges of the cleft on the hard palate. Kerr's paste was used to ensure an accurate impression.

The vital importance of a perfect impression is evident: The main physical force for the retention of the denture-bearing velum is adhesion by contact and a perfect peripheral seal; muscle-trimming must therefore be accurately done to nullify the least bit of denture displacement during speaking and eating.

**Pin Tube Attachment**—The usual procedure for making full upper and lower dentures was then followed—the making of bite blocks, obtaining a Gothic arch tracing and condylar readings, and waxing the teeth in proper articulation. The full maxillary denture being used as an obturator retainer, two split pins and tubes were embedded in the wax in the area of the cleft on the middle posterior border of the denture.

(These pins and tubes were of the old Peeso-type at one time used in crown and bridge prosthesis. Their application in cleft palate work, a description of which follows, serves to maintain a better-fitting obturator attachment. When necessary, the pins can be bowed a little in order to gain more traction and a tighter fit. Inasmuch as this pin tube attachment (Fig. 2) serves as the connector between the velum and the maxillary denture (Fig. 3) it is essential to use two pins and two tubes placed in a parallel position. This arrangement prevents unbalance, weakness, and instability of the velum obturator.)

The waxed dentures were processed



4. Velum obturator as it appears in the mouth.

and necessary adjustments made. Then the patient was allowed to wear the dentures for several weeks.

**Velum Obturator**—The velum obturator device was made by fitting the two split pins into the tubes already positioned in the denture and soldering a silver wire, bent in the form of a loop, to the ends of the pins. Gauging the extent of the wire loop was facilitated by using a cast of the cleft. This cast was obtained by taking a snap impression of the entire cleft portion in modeling compound: (1) attaching a small piece of impression tray metal to the denture with modeling compound; (2) building a small mound of softened compound on top of it; (3) placing the denture in the mouth and telling the patient to swallow several times; (4) chilling and pouring the impression. A model was then made.

The following method was employed to fashion an accurately fitting velum.

1. The male, or split pin, portion was inserted into the tubes processed in the denture.

2. Low-fusing carding wax was at-

tached to the wire loop, molded and shaped so that the pharyngeal tissues would overlap the edges of the wax. It was further shaped and extended posteriorly so that when raised by the musculature in swallowing, it would touch the posterior wall of the pharynx, entirely closing off the nasal passage.

3. After obtaining this general contour, the wax was well softened, the obturator and denture placed in the mouth, and the patient instructed to swallow several times. (The contraction of the muscles during swallowing reduces the overextension, thus trimming the wax to the proper contour. The proper posterior extension of the velum may be determined by examining for a depression in the wax caused by the prominence of the contracting belly of the superior constrictor of the pharynx [known also as Passavant's cushion]. It is through this contact of Passavant's cushion with the velum that complete closure is effected between the oral and nasal pharynx.)

4. After correct adaptation of the velum to all the tissues which it is to

contact, the obturator and waxed velum are removed; the wax velum is detached from the denture, flaked, and processed in soft velum rubber, being vulcanized in the same manner as any vulcanite denture would be.

5. After processing, the excess is trimmed and the edges of the velum are rounded and made smooth to prevent irritation to the tissues. (Soft velum rubber was used since it brings about a better physiologic action with the tissue. Because of its flexibility, it can readily move with the soft tissues without being displaced or losing contact.)

### Improvement in Tone Quality

Soon after insertion of the velum obturator (Figs. 4 and 5), the patient's tone quality showed a marked improvement. It is, of course, to be expected that correction of speech and articulation cannot be accomplished immediately for the patient has attempted over a long period to compensate for the cleft with faulty speech habits. Through continual practice, however, adjustment and adaptation of the pharyngeal muscles to the artificial velum are brought about, faulty speech habits thus being gradually overcome. It is possible for the patient to regain normal tone quality and distinct articulation.

40 Somerset Street.



5. Profile view of cleft palate patient with dentures in mouth.

## The EDITOR'S Page

SPORADIC STORIES appear in the newspapers concerning the use of hypnosis in dental procedures, notably in minor oral surgery. This method of inducing relaxation is not widely used in medical and dental circles and is a procedure that is viewed with considerable skepticism and often with open hostility. Practitioners who use hypnosis are not favorably looked upon by colleagues and are viewed by the public with misgivings.

Whatever the limited clinical merits of the method may be, they are difficult to determine because physicians and dentists do not wish to jeopardize their reputations by using a procedure that has a dubious historic background. Charlatans and frauds have so long been identified with hypnotism that a prejudice exists that is difficult to overcome even under conditions of careful and exact scientific research. Recently Marcuse<sup>1</sup> of the Department of Psychology of Cornell University, writing in a highly respected dental publication, has made an excellent review of hypnosis in dentistry. His evaluation is strictly objective and has none of the special pleadings for hypnosis and none of the violent diatribes against the subject that have been so often found in the literature.

In a footnote he says, "Progress in our knowledge of hypnosis has been hampered by short-sighted and ill-informed groups who have been in a position to directly or indirectly prohibit research in many of our large universities." It is regrettable that a method, even with an extremely limited application, has been denied scientific evaluation. Marcuse "would argue that the existence of contraindications to the use of chemical anesthetics represents a minimum argument for a more scientific study of hypnosis and hypnotic anesthesia." He also states that the most important contraindication to hypnosis "is probably the relatively small number of individuals sufficiently susceptible within a reasonably short period of time."

On the basis of these two points raised by Marcuse, the subject of hypnosis may be appraised. In the first place, there are few contraindications to the use of chemical anesthesia. In those cases where one of the inhalation anesthetics is contraindicated, there still remain the local and intravenous agents. In a case where the epinephrine content of a local anesthesia may not be used with safety, there are now other vasoconstrictors that are without danger.

If the case calls for complete loss of consciousness, intravenous anesthesia such as pentothal sodium is available. Recently Copen<sup>2</sup> has reported the use of a combined solution of demerol hydrochloride and procaine that relieves apprehension and anxiety and produces an excellent local anesthesia. There are, in fact, few if any conditions where some form of chemical anesthesia cannot be used safely and effectively. The need of hypnosis on that score is therefore rare.

The second point raised by Marcuse, the relatively small number of persons susceptible to hypnosis within a reasonable time, raises an important objection to the method. Busy dentists and physicians serving people who are in pain and in need of relief cannot temporize with a method that is not universally applicable, that may require several sittings, and in which the depth and length of the hypnosis is unpredictable. Marcuse says that from 13 to 70 per cent of people are susceptible to hypnosis. He quotes other writers on the subject:

"Toplan advised that prior to operative procedures, two or three sittings of one-quarter hour be held. Wookey stated that 35 per cent of patients are sufficiently susceptible for purposes of dental anesthesia after three to five visits. Stein gave a corresponding figure of 15 to 20 per cent by the fifth attempt—the first yielding less than 7 per cent. Neither Stein nor Wookey indicated the length of each visit. Whether or not the patient should be informed of an impending operation represents a problem in technique. Bernheim, Braid, and Wetterstrand and Petersen believed that the resulting distraction might vitiate against obtaining a sufficiently deep hypnotic state, and, consequently, concluded that the patient should not be forewarned. The auxiliary use of drugs to produce somnambulism in individuals otherwise nonsusceptible represents a further extension of the problem of technique. One procedure involves the use of drugs one-half hour prior to the hypnotic sessions to reduce the patient's resistance. Such continuous use of drugs is not necessarily required. A posthypnotic suggestion may be given during narcosis to render the subject susceptible to subsequent hypnotic procedures."

The uncertainty of hypnosis and the time involved are the best arguments against the method as compared with chemical anesthesia.

<sup>1</sup>Marcuse, F. L.: Hypnosis in Dentistry, *Am. J. Orthodont. & Oral Surg.* 33:796-807 (November) 1947.

<sup>2</sup>Copen, S. I.: Premedication By Co-medication in Local Anesthesia, *Am. J. Orthodont. & Oral Surg.* 33:290-300 (April) 1947; The Problem of Apprehension and Anxiety in Dentistry, Accepted by *DENTAL DIGEST* for future publication.

## **A Simple, Effective Treatment for VINCENT'S GINGIVITIS**

**STEWART EVERSON, D.D.S., Los Angeles**

### **DIGEST**

*Chronic acid correctly applied is presented as an effective treatment for acute, subacute, or chronic Vincent's gingivitis.*

*Because gingival infection (1) has the potentiality of developing into a severe complication, (2) requires the postponement of intra-oral surgery and operative dentistry, and (3) is painful, embarrassing, and contagious, it is emphatically pointed out that the administration of prophylaxis in the early stage of the infection manifests better judgment than postponing treatment until an advanced stage when numerous therapeutic treatments will be required.*

*The initial danger signals—inflammation of the gingival margins and bleeding of the gingivae—should therefore not be ignored.*

THE COMPLICATIONS of Vincent's infection of the gingivae, oral mucosa, and throat are multiple, and the potential dangers of the disease should not be underestimated. If the infection is permitted to progress without treatment, many serious conditions such as gangrenous stomatitis, bone necrosis, lung abscess, or pulmonary gangrene may result. There are reports of deaths which have resulted from the removal of a single tooth in the presence of the infection.

Vincent's infection should be recognized and controlled in the early stages not only because of the possibility of its developing into a grave complication, but because it causes the patient a great deal of pain and embarrassment; also, it is highly contagious. In addition to the inconvenience caused the patient, the dentist is hindered as intra-oral surgery and operative dentistry must not be performed in the presence of this disease.

### **Terminology**

The term Vincent's angina, as used by a number of authors to include any Vincent's infection, is ambiguous and inadequate. The terminology employed by Thoma<sup>1</sup> is specific inasmuch as it indicates the part affected. He states that if the infection affects only the gingiva, it is known as ulceromembranous gingivitis or Vincent's gingivitis; if there is an involvement of the oral mucosa, it is called Vincent's stomatitis; if the throat and tonsils are affected, the term Vincent's angina may be applied.

### **Etiology**

**Fusospirochetal Organisms**—When the vitality of the tissue is lowered, the fusiform bacilli and Vincent's spirilla, which are present in small numbers in all normal mouths, may become pathogenic. However, to date, it has not been determined whether the fusospirochetal organisms are the primary etiologic factors of the infection for these two micro-organisms

are always associated with other bacteria. Zinsser and Bayne-Jones<sup>2</sup> suggest that "they may be present as secondary invaders upon soil prepared for them by other micro-organisms."

Some investigators consider the fusospirochetes to be symbionts; others deny the existence of a symbiosis on the basis that the fusiform bacillus and the Vincent's spirillum are two forms of the same organism. The controversy is due to technical difficulties in isolating, cultivating, and identifying the spirochetal flora.

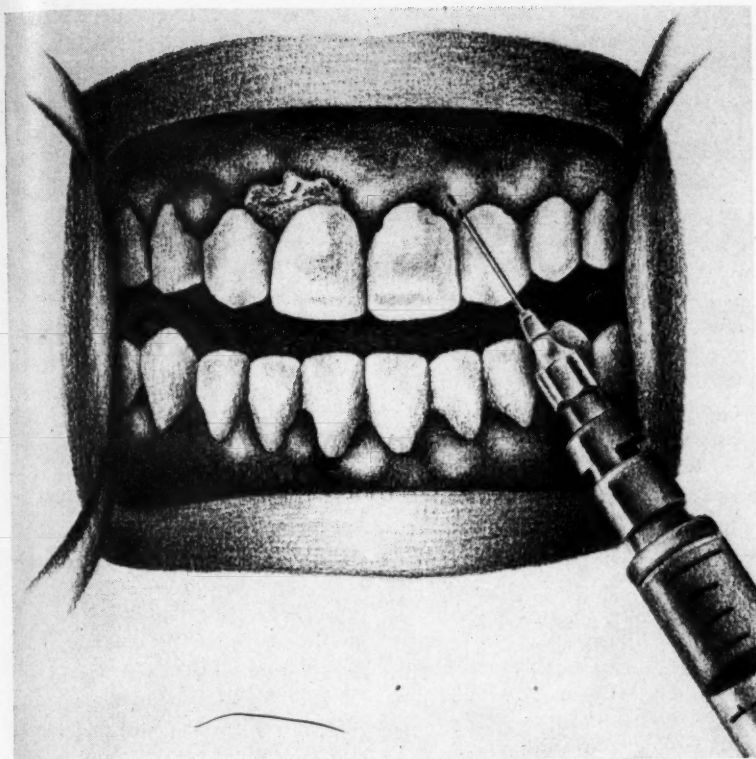
Despite the bacteriologic dispute, it is well established that when the resistance of the tissue is lowered and the fusospirochetes multiply to the extent that they are the predominating organisms of the mouth, Vincent's infection results. The lesions of Vincent's infection abound with the fusospirochetal organisms; and as the lesion becomes less severe, the number of organisms diminish.

The aerobic staphylococcus and streptococcus, which are also present in the normal mouth, exhaust oxygen and thereby permit and assist the multiplication of the anaerobic fusospirochetes.

**Tissue Resistance**—The major factors in the lowering of tissue resistance are: (1) poor oral hygiene caused by infrequent or faulty brushing of the teeth, (2) overhanging restorations, (3) gingival and serumal calculi, (4) nutritional deficiencies, (5) blood dyscrasias, (6) general debility, and (7) tissue flaps, of the lower third molar teeth in particular, which overlie partly erupted teeth.

<sup>1</sup>Thoma, K. H.: Oral Pathology, St. Louis, C. V. Mosby Company, 1941, page 1237.

<sup>2</sup>Zinsser, Hans, and Bayne-Jones, S.: Textbook of Bacteriology, ed. 8, New York, D. Appleton-Century, 1939, page 706.



Marked inflammation of gingival margins, pockets, and crevicular ulcer. Blunt end needle of syringe, holding chromic acid, is inserted under gingival margin.

If the infection is attributable to overhanging restorations or calculi, only after therapeutic treatment has been given and the disease is under control may the cause be eliminated. Large superficial deposits of calculi may be removed; but because of the possibility of initiating a hemorrhage or injuring the gingivae, which would facilitate the penetration of the anaerobes into deeper tissues, scaling of the teeth is contraindicated even though the calculus is the direct cause of the infection. When the symptoms of the disease have subsided, it is safe for the patient to have operative and surgical procedures performed in the mouth. Under no condition should a tooth be extracted before the infection has been controlled.

### Clinical Diagnosis

The most common clinical manifestation of Vincent's gingivitis is a marked inflammation of the marginal gingivae with a sheared-off appearance of the papillae. In later stages

of the disease, the papillae become necrotic and covered with a gray pseudomembrane which, when removed, reveals deep crevicular ulcers. The lesions bleed easily and are exceedingly painful. The gingivae are spongy and bleed easily, the teeth may be loose, the breath is extremely offensive, and the patient frequently complains of a sore throat, elevation in temperature, and enlarged regional lymph glands.

It is comparatively simple to diagnose Vincent's gingivitis when it has reached the ulcerative stage, but it is not so simple to recognize the infection in the incipient stage. Any inflammation of the gingival margins or bleeding of the gingivae should be regarded with suspicion and treated accordingly. Frequently too many dentists either overlook or ignore the initial danger signals. If the dentist postpones treating the infection until crevicular ulcers appear, a series of treatments will be necessary instead of the one or two had he not procrastinated.

If the infection is in the incipient stage, the treatment to be described will clear up the condition in one or two days. However, if the infection has been permitted to progress, approximately three to six treatments, given every twenty-four or forty-eight hours, will be necessary to eliminate the symptoms. *It is better judgment to give one prophylactic treatment than many therapeutic treatments;* therefore one should always be alert for the danger signals.

### Treatment

It is, indeed, fortunate that such a dangerous infection can be treated so effectively by using a simple method which requires only a few minutes to perform. If the following treatment is given conscientiously with the correct technique, acute, subacute or chronic Vincent's gingivitis will respond favorably within a short period of time.

1. Two cubic centimeters of a 10 per cent solution of chromic acid are aspirated into a 3 cubic centimeter pencil type hypodermic syringe to which a 22-gauge, 1½ inch needle, with a blunt end, is attached.

2. Immediately preceding the irrigation with chromic acid, the tissues must be dried with an aspirator, air, or cotton.

3. The gingival crevices surrounding all remaining teeth, regardless of the number, and the interproximal papillae, including the pockets, are carefully irrigated with the solution.

- a) The needle is drawn toward the operator as the point of the needle slides along the base of the gingival crevice during the irrigation. This technique prevents any laceration or injury to the mucous membrane, especially since the needle is blunt.

- b) Particular care must be taken to irrigate under the third molar flap if the tooth is only partly erupted. If the third molar has been removed or is impacted, care should be taken to irrigate the gingival crevice distal to the second molar tooth.

4. It is important that the chromic acid irrigation be immediately followed with an aspirator to catch the excess acid which might flow onto other parts of the mucous membranes of

the mouth. If the dentist does not have an aspirator, the assistant may follow the irrigation with a cotton swab.

**Length of Time**—The entire irrigation procedure must not consume over one to one and one-half minute's time; otherwise there is danger of burning the tissues with a 10 per cent solution of chromic acid. Usually 2 cubic centimeters of chromic acid will suffice for the entire treatment. If a weaker solution of chromic acid is used, more time may be allotted to giving the treatment. However, since the 2 and 5 per cent solutions of chromic acid do not have the strong escharotic property of the 10 per cent solution, the utilization of weaker solutions necessitates a greater number of treatments. Regardless of the percentage, *extreme caution must be exercised when chromic acid is used in the mouth* because it is not only a germicidal agent which destroys bacteria, but also a caustic agent which destroys tissue cells.

Immediately after the chromic acid irrigation, the patient rinses his mouth four or five times with a 1.5 or two per cent solution of hydrogen peroxide; a 3 per cent solution may be used safely in the first treatment. The chromic acid is reduced by the hydrogen peroxide to a perchromate which is dark blue in color.

**Instructions to Patient**—The pa-

tient is instructed to brush his teeth at least three times a day, and to use equal parts of 3 per cent hydrogen peroxide with water as a mouth wash after each brushing until the disease is cured. At the time of the first treatment the patient is advised to dispose of his old toothbrushes and to buy a new toothbrush. If the case requires as many as three treatments, the patient should buy another new toothbrush after the third treatment. He must be impressed with the fact that the infection is highly contagious and told how to avoid contaminating others.

Vitamin C, nicotinic acid, and penicillin lozenges have proved to be valuable supplements to the chromic acid-hydrogen peroxide treatment.

### Summary

1. Vincent's infection is the cause of many serious complications which may result in death, and it is important that the dentist take the initiative in its control, diagnosis, and treatment.

2. The fusiform bacilli and Vincent's spirilla are found in small numbers in normal mouths. However, when tissue resistance is lowered and the anaerobic fusospirochetes are permitted to multiply into enormous numbers in the presence of aerobic micro-organisms, such as staphylo-

cocci and streptococci, they become pathogenic and Vincent's infection is the result.

3. The chief predisposing factors of Vincent's gingivitis are poor oral hygiene, faulty restoration, gingival and serumal calculi, tissue flaps, nutritional deficiencies, blood dyscrasias, and general debility.

4. If Vincent's gingivitis progresses without treatment, there is marked inflammation of the gingivae with the formation of crevicular ulcers, spongy, bleeding gums, offensive breath, excruciating pain, possible exfoliation of teeth, elevation of temperature, and sore throat.

5. Operative and surgical procedures of the mouth must be delayed until all symptoms of the disease have obviously subsided.

6. The treatment consists of irrigating the gingivae, papillae, and pockets with a 10 per cent solution of chromic acid by using a 22-gauge, 1½ inch, dull edge needle attached to a hypodermic syringe. Immediately following the acid irrigation, the patient rinses his mouth well with a 1.5 or 2 per cent solution of hydrogen peroxide.

7. The local treatment may be supplemented with Vitamin C, nicotinic acid, and penicillin lozenges.

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## Acidophilus Counts

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### Classification

The number of Lactobacillus acidophilus organisms per cubic centimeter of saliva has been classified as follows:

± =	0-1000
± =	1000-5000
++ =	5000-10,000
+++ =	10,000-50,000
++++ =	50,000

Obviously, ± represents a relatively small number of acidophilus organisms and is indicative of little or no caries activity.

++++ is strongly indicative

of caries activity. In most cases of caries activity, the report is either +++ or +++++, which points to caries activity. In such cases, reduction of the number of acidophilus organisms by means of a restricted carbohydrate dietary is indicated.

Where only ++ is found, a reduction in the amount of sugar consumed, without restricted carbohydrate intake or other change in dietary, should be recommended.

### Purpose

Lactobacillus acidophilus counts are

needed not only to determine whether a patient should be placed on a restricted carbohydrate diet but also as a guide in recommending a change in the regimen from one diet plan to another. Where patients have observed such a dietary regimen, it has been followed by a reduction in the number of cavities which developed over a period of time, even in cases where rampant caries had been present before treatment was begun.

—From *The New York State Dental Journal* 13:513 (November) 1947.



## Preoperative Feeding

The nutritional status of patients prior to operation has been recognized by surgeons in recent years as being of utmost importance.

Correct surgical preparation demands that the hemoglobin value be satisfactory and that the patient be in fluid and electrolyte balance. Food intake and weight loss should be ascertained.

Patients whose food intake has been poor and who have lost considerable weight are poor subjects for operation. They are in reality auto-cannibalistic and in consequence the protein stores of such patients have been depleted and fatty infiltration of the liver is a usual sequel. They tolerate surgery poorly.

Some surgeons have noted that proper preoperative feeding will rehabilitate many patients so that they can withstand severe operative ordeals. The extent of weight loss is in general the best criterion of the length of preoperative feeding period. These patients are fed a solid and liquid diet rich in protein and carbohydrate and low in fat. In a few cases intravenous feedings of amino acids, plasma, and glucose are given.

Adequate amount of vitamin C should be given all poor risk patients. The vitamin helps to correct the poor healing quality of tissues. Vitamin K often is given as an agent to help prevent excessive bleeding in certain conditions. Along with this, liver is found to be useful.

Wangensteen, O. H.: *Care of the Patient Before and After Operation*, New England J. Med. 236:121-129 (January 23) 1947.



## Transfusion of Blood

Each of the many fractions of whole blood has an important function. The preservation and storage of blood affects some of the fractions adversely. It is wise to study the patient's needs and the suitability of

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## and the Biologic Sciences



transfused elements when introducing all or part of the human blood into the vascular system. Even under the best of circumstances there is a certain degree of risk in transfusions.

There are seven principal components of blood. The erythrocytes are the only source of hemoglobin. They contain an agglutinin specific for their type which must always be compatible with the agglutinin in the plasma of the recipient.

Leucocytes disintegrate rapidly in stored blood but fortunately they play no recognized part in the transfusion of blood. Likewise, the platelets disappear within a few days after blood is stored. Platelets are indicated only when there is a deficiency of them.

Proteins, the essential nutritional elements, are present in plasma and serum no matter how long blood is stored. The gamma globulin is available today for use in certain disorders. The prothrombin disappears to a large extent in stored blood and liquid plasma. Dessicated plasma made from fresh plasma probably contains from 50 to 75 per cent of its original amount of prothrombin.

The coagulation factors are little affected by storing. Also, storage of blood or plasma results in no changes

in the immune bodies in the blood.

Whole blood is used most widely in the hospitals both preoperatively and postoperatively. There are no general rules for the need for the preoperative transfusion. However, in major surgery whole blood is used (1) if the hemoglobin is less than 8 or 9 grams per 100 cubic centimeters of blood or (2) if the erythrocyte count is less than 3,000,000 per cubic millimeter. During or soon after an operation causing unusual loss of blood or extensive tissue trauma, it is wise to administer whole blood.

Extensive and rapid loss of blood often encountered in injuries, gastrointestinal lesions, and obstetrical cases demands whole blood. It is essential to maintain the blood level near normal and to maintain an adequate number of circulating erythrocytes.

In carbon monoxide poisoning, whole blood is used with best results. Also, active hemophilia and blood disorders in which the bleeding process is active require whole blood.

The well-stocked blood bank has available whole blood, fresh and desiccated plasma, and salt-free serum albumin. Plasma has an extensive use in such conditions as trauma, burns, and shock where there is little loss of blood from the circulation. In burns, for each 10 per cent of body surface burned, 1000 cubic centimeters of blood or plasma is necessary, as a rule.

There are very few contraindications to transfusion of blood. There may be a few allergic reactions and precaution must be exercised to avoid "overload" especially in the aged or in the presence of cardiovascular failure. Material should be transfused slowly to secure the least reactions.

Stickney, J. M.: *Transfusion of Blood: Indications and Contraindications*, M. Clin. North America 37:806-809 (July) 1947.



## Streptomycin

The antibiotic, streptomycin, was reported in 1944 by Waksman and his associates at the New Jersey Agri-

cultural Experiment Station at Rutgers University. It was found to be a substance exerting bacteriostatic and bactericidal effects upon gram negative and acid-fast bacteria. They isolated the material after work on the soil fungus, *Streptomyces* (*Actinomyces*) *griseus*.

The drug is freely soluble in water but not soluble in organic solvents. Both chemically and biologically it has a high degree of stability in the powdered form and also in solution.

While penicillin is influenced by the enzymes associated with bacterial activity, streptomycin is not affected by these enzymes. Streptomycin is a strong organic base whereas penicillin is an acid. Maximum activity of streptomycin is obtained in a pH of approximately 9.0 while penicillin is most active at a pH from 6.3 to 6.8.

The absorption and excretion of streptomycin is similar to that of penicillin although the rate is somewhat slower. To maintain therapeutic blood levels the intermittent intramuscular route of administration is best.

The drug does not pass known anatomic barriers such as blood-pleura, blood-intestine, and blood-brain. Therefore it is necessary to supplement its parenteral use with local administration.

The dosage of streptomycin is usually referred to in terms of weight. The relationship of weight to units is: 1 microgram equals 1 "S" unit, 1 milligram equals 1000 units or micrograms, and 1 gram equals 1,000,000 units or micrograms.

For clinical use the drug can be prepared in the form of solutions or ointments. It is now the preferred drug for certain heretofore unconquerable gram negative and acid-fast bacterial infections. Also, it is used in treating infections caused by some gram positive organisms which are resistant to penicillin and sulfonamides.

In the treatment of tuberculosis, prolonged courses of therapy are necessary. The drug seems to have a suppressive action on the bacilli. The use and dosage of streptomycin is determined by the infectious organism and the individual case.

There are some untoward reactions

from the use of the drug. Pain and irritation at the site of injections are common. Often fever, headache, transient dizziness, and irritation of the kidneys result from its use.

In some persons otitic manifestations of toxicity appear in two weeks. The vestibular portion of the eighth nerve is usually affected. Dizziness on change of position is the outstanding symptom. This may be more or less permanent. However, the optic nerve assumes the gyroscopic function of the vestibular nerve so that the patient recovers from most of the symptoms. If damage to the eighth nerve is demonstrated, streptomycin therapy should be discontinued.

Pulaski, E. J.: *Streptomycin*, *Am. J. Surg.* 73:651-657 (June) 1947.



### **Mental Talents versus Aging**

Authoritative opinion maintains that psychologic activities are dependent on physiologic ones. Physiologic peaks are reached earlier than psychologic peaks. Therefore, the more a mental activity includes a physiologic factor, the more likely is it to undergo a decline with age; and the less any mental activity calls on physiologic function, the more likely is it to obtain its maximum at a later age.

The human physique is at its top muscular and physiologic efficiency around twenty-five. There is a slow descent from this level until forty-five when the momentum increases. Around fifty-five the rate again increases until seventy.

In general these declines vary but little. However, they can be delayed by a moderation in living. Some persons live a whole life time by forty-five; others live more slowly but longer.

Mental stature is gained quickly and lost slowly. Mental abilities mature between thirteen and sixteen and remain on a level until the early twenties. Then in the next sixty years this gain is gradually lost. The largest decrements occur in the forties and the sixties. This applies to the total

intelligence and not to the different abilities.

The nonmental functions of vision and hearing reach their peaks in the late teens and then decline slowly in efficiency. Because of their importance they have a great deal to do with true mental activity. An interesting fact to consider is the emotional receptivity, particularly in childhood and old age; we see and hear what we want to see and hear.

Of all mental activities, reaction time is the most dependent on physiologic function. It shows a marked loss after reaching a peak in the teens or early twenties. Two-thirds of pedestrians killed in automobile accidents are over forty. The next largest group consists of very young children.

Immediate memory declines rapidly with age after the early twenties. The more recent impressions and experiences are the first to be lost. Physiologic changes are largely responsible for the inability to make fresh associations.

The ability to learn new things declines after the early twenties. Some estimate a one per cent loss in learning ability per year from age twenty-five on. Little change of interest is found after fifty. One's interests reflect the decrease in physical functions just as skills and abilities do. There are some exceptions—those who possess the ability to learn continually. And, too, most persons have far more ability and learning capacity than they can ever utilize.

Judgment and reasoning ability develop slowly, reaching their peaks latest of all abilities. They are among the last to go. The strategy of tackling problems often improves with age.

Creative imagination seems to be ageless. Individuals may think creatively at practically every chronologic age level beyond early youth.

Consideration of the relationship of mental talents to problems associated with aging of persons is a factor in the social and industrial schemes of today.

Lawton, George: *New Goals for Old Age*, New York, Columbia University Press, 1945, pages 11-33.



## Deafness— Fenestration Operation

Deafness in otosclerosis is now treated surgically in many patients. The operation is known as the Lempert one-stage fenestration operation and consists in making a window in the surgical dome of the vestibule. A serviceable hearing is restored in from 60 to 80 per cent of patients when the operation is properly completed in selected cases.

Otosclerosis is not a rare disease. From eight to ten per cent of persons have otosclerotic foci at some point on the osseous labyrinth of the inner ear. But fortunately in only one out of seven cases does the otosclerotic focus involve the oval window. There are about 1,000,000 deaf persons in the United States.

There is no known medical treatment which will arrest the formation of the tiny but crippling osteoma. Nor is there any medical procedure which will produce the resolution of the otosclerotic focus.

The diagnosis of otosclerosis and the selection of patients for the fenestration operation are based upon the history and otologic examination.

There is a gradual onset of deafness in adolescent or early adult life. The earliest and frequently the most annoying symptom may be tinnitus aurium. Frequently there is a family history of deafness and usually the disease is bilateral.

Otologic examination reveals essentially normal tympanic membranes and normally patent eustachian tubes. Otosclerosis is diagnosed with the tuning fork test to best advantage. The audiogram is a definite adjunct in determining the indications for the operation. Patients whose hearing is below thirty decibels at selected frequencies may be benefited by surgery.

The fenestration operation is performed through a triangular incision in the external auditory canal. Through an opening in the posterior wall of the attic, the incus and the head of the malleus are removed. A tympanocutaneous flap is cut to cover the medial wall of the attic. And, finally, a fistula is made in the ampul-

lated end of the horizontal semicircular canal. Construction of the fistula must be microscopically perfect to attain success.

There may be a temporary facial paralysis in five per cent of cases. All patients experience vertigo in the first postoperative weeks but this usually subsides by the end of the first month.

The fenestration operation is now considered an operation of election in early or moderate otosclerosis. Best results are obtained only when the inner ear has retained normal or nearly normal function. The earlier the operation the greater the possibilities for restoration of a practical and serviceable hearing.

*Farrior, J. Brown: The Fenestration Operation for Deafness, J. M. A. Alabama 16:317-323 (April) 1947.*



## Influenza— Immunization

Studies reveal that nearly every adult has been infected at some time with pandemic influenza. Within the last few years an inactivated virus preparation has been developed for the virus disease influenza.

In adults only one inoculation of one cubic centimeter of virus vaccine is necessary as it acts as a reactivator or booster injection of waning immunity. Over 90 per cent of persons show a sharp increase in circulating antibodies within one or two weeks after inoculation.

The antibody level is still above prevaccination level one year later. Annual booster injections are indicated because of the prompt response to a single injection and because of the definite decrease of antibodies by the end of a year.

The rate of incidence of the disease is considerably lower in vaccinated groups than in control groups.

Vaccine for influenza is prepared in quite a different manner from other vaccines. The live virus is inoculated on the extra-embryonic fluid of the developing hen's egg. As a result of the processes of adsorption, diffusion and centrifugation, the final preparation of the virus contains lit-

tle or no egg protein. An effort is being made to eliminate all egg protein as some patients are allergic to egg protein.

In dealing with children the procedure is varied as we know that very young children have not previously been infected with the virus. Some authorities advise two inoculations at intervals of two months. The dose is gauged by weight ratio as in other vaccine therapy. In general, 0.25 cubic centimeters may be given to children up to three years of age; 0.5 cubic centimeters to children up to ten years, and one cubic centimeter to older children.

The results in children have not been as favorable as in adults. And, children frequently experience slight headache, transient chilliness, and fever and soreness of the arm for a short period.

The vaccine as prepared today protects only against influenza A and B. Other respiratory infections, virus or bacterial, are not affected.

*Cohen, Philip: Active Immunization in Pediatrics, M. Clin. North America 31:596-597 (May) 1947.*



## Artificial Insemination

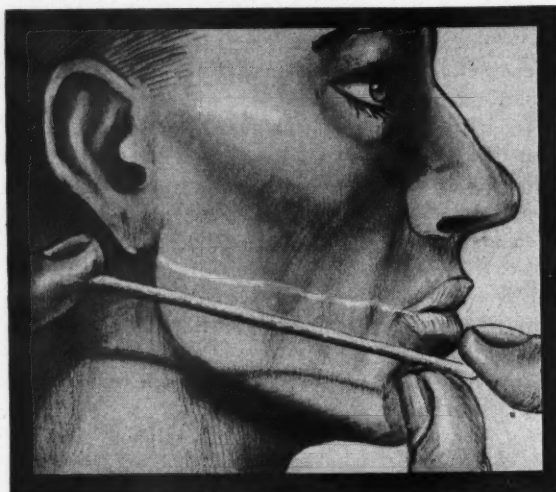
The term artificial insemination refers to the introduction of semen into the genital tract of the female without sexual intercourse. There are two types of artificial insemination: The one in which the husband's semen is used is purely a medical problem and involves no legal complications. The other, where semen is obtained from a donor, has ethical, legal, and religious aspects as well as a medical phase.

The indications for using a husband's spermatozoa for artificial insemination are (1) inability of the husband to deposit the semen in the vagina and (2) inability of the spermatozoa to gain access to the uterine cavity from the vagina. These entail mostly physical disorders and some psychic ones.

There are some definite indications  
(Continued on page 82)

## Clinical and Laboratory

1

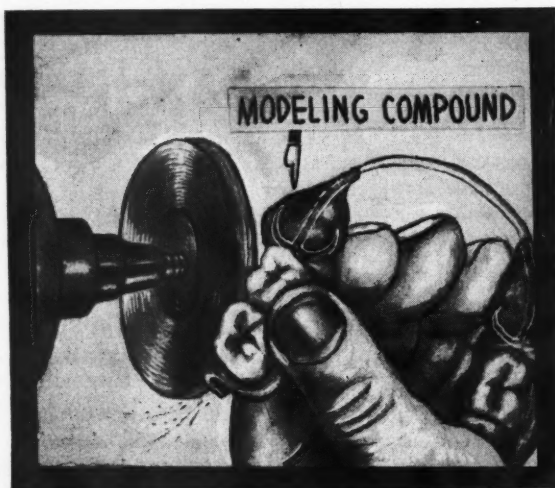


### Marking Occlusal Plane on the Face

P. M. Oungst, D.D.S., St. Louis

1. A line indicating the plane of occlusion can easily be drawn on the patient's face with a swab stick which has been rubbed over colored chalk. The swab stick is placed in the desired position and pressed down tightly on the face for a moment, thus transferring the chalk line to the face. This line facilitates establishing the occlusal plane and facial lines. The line can be wiped off easily with a towel.

2

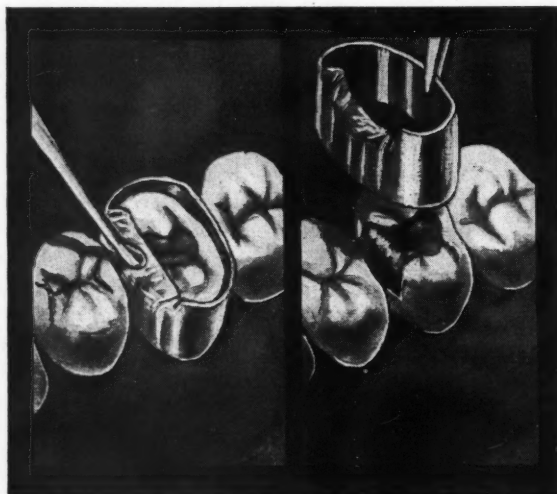


### Protecting Clasps During Polishing

W. Fleming King, D.D.S., Phoenix, Arizona

2. Soften modeling compound in hot water and cover the clasps on a partial denture with the compound. This protects the clasps during polishing. After the denture is polished, soften the compound in warm water and remove.

3



### Developing the Marginal Ridge on Amalgam Restorations

John V. Borden, D.D.S., Washington, D. C.

3. After the amalgam has been condensed, trim the excess in the marginal ridge area with the point of a sharp explorer to establish the proper height. The matrix which is projecting above this level may then be bent inward toward the restoration to produce a flange. Burnish this metal flange with an egg-shaped burnisher. This procedure produces a well-contoured and well-condensed marginal ridge. Remove the matrix and complete the occlusal contour after the amalgam has set.

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## SUGGESTIONS . . .

### Testing the Acrylic Mix for Shade

J. P. Robertson, D.D.S., Niagara Falls, Ontario

4. When constructing an acrylic crown, place a small amount of the mix in a square of wet cellophane. Gather the edges together and twist into a ball. Hold the ball of acrylic close to the teeth that are being matched and use as a test for proper shade.

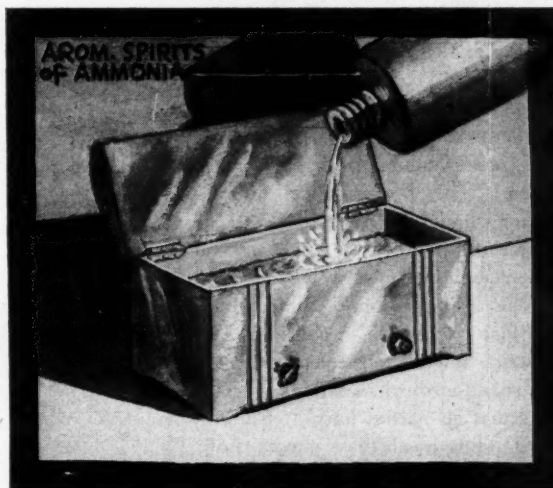


4

### Addition of Aromatic Spirits of Ammonia to Water in the Sterilizer

Lieutenant (jg) Gage Colby (DC) USNR, Quonset Point, Rhode Island

5. To keep instruments that have been boiled in the sterilizer partly free from rust and tarnish, add one fluid ounce of aromatic spirits of ammonia to each quart of water in the sterilizer. A pleasant odor is given off from the ammonia when the sterilizer is heated.

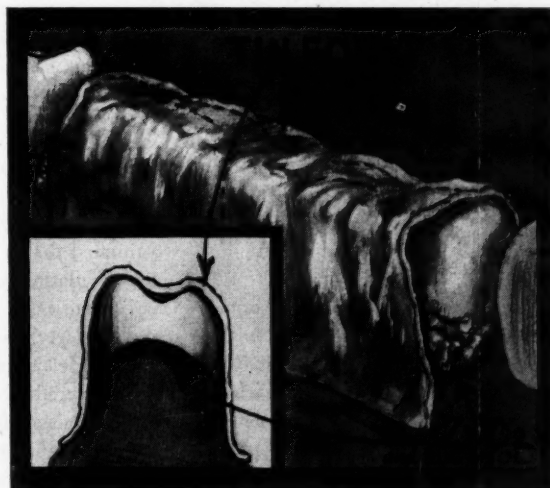


5

### Protection of the Soft Tissues After Gingivectomy

N. M. Ordene, D.D.S., Jamaica, Long Island, New York

6. After the surgical procedure, the tissue is covered with a zinc-oxide eugenol dressing. A piece of tin or aluminum foil is then adapted over the occlusal, buccal, and lingual surfaces. When the surgical cement is hardened, the foil is maintained in position as a protection.



6

suitable illustrations; write a brief description of the technique involved; and jot down the advantages of the technique. This shouldn't take ten minutes of your time.

Turn to page 90 for a convenient form to use.

Send your ideas to: Clinical and Laboratory Suggestions Editor, DENTAL DIGEST, 708 Church Street, Evanston, Illinois.

(Continued from page 79)

for using a donor's semen. Complete absence of sperm and grossly affected sperm—decidedly diminished number, defective motility, or excessive incidence of defective sperm—are conditions which warrant the use of semen from a donor. When there is a possibility of inheriting a disease and when the woman has given birth to a baby with erythroblastosis foetalis, the use of a donor semen should be considered.

The most favorable time for artificial insemination is at the time of ovulation. This is the time when an egg is ripe to be fertilized. At the present time there is no known method of determining the time of ovulation in women. It is known that in the majority of women who menstruate fairly regularly ovulation takes place between the twelfth and the sixteenth day after the beginning of the menstrual cycle. The life of the spermatozoa is probably not more than 48 to 72 hours and the life of the ovum is less than 24 hours (probably only 12 hours). Therefore, artificial insemination should be practiced three or four times between the tenth and the seventeenth day of a cycle.

When using a donor's semen, there are many problems to consider. The practice has its ethical, legal, religious and medical aspects. It is necessary that all parties have a clear understanding of all these phases. And, utmost precaution must be exercised in the procedure to avoid the possibility of error.

Greenhill, J. P.: *Artificial Insemination: Its Medicolegal Implications*, *Am. Practitioner* 1:227-241 (January) 1947.

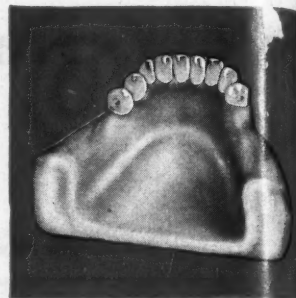


### Diabetes Mellitus

Diabetes mellitus is a condition resulting from a deficiency of the internal secretion of the pancreas, insulin. The condition represents an inability of the body to metabolize carbohydrates adequately. An incomplete fat metabolism and an altered protein metabolism accompany the condition.

## THE "BREAD-AND-BUTTER"

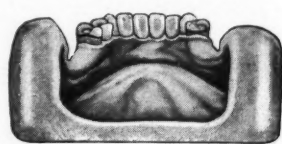
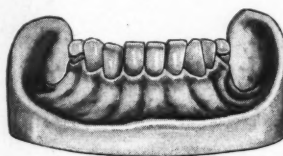
Of all the partial denture problems that walk into your office, this type is unquestionably the most familiar. It ordinarily looks as though it should be the easiest to solve, yet frequently turns out to be the most troublesome. It produces an enormous number of failures, the greatest percentage of which are unnecessary if the correct clasp design is understood.



In the vast majority of instances a common bucco-lingual grip clasp is chosen, despite the fact that the only usable undercut and retention area is on the distal of the abutment. This bucco-lingual clasp is attached to the case by a truss arm at the distal, and in order to get the case to seat, the distal undercut is either waxed out, or the inside of the truss arm and of the clasp is ground out after casting. In any event the natural distal retention is lost and the only retention factor remaining to hold the case in the mouth are the mesial tips of the clasps. No amount or kind of adjustment of these clasp tips will keep the free-end saddles down, — other than very temporarily.

Ney back-action clasps have proved to be an unqualified success in countless free-end saddle cases, both upper and lower. The reason is simple and logical.

### FOUR VIEWS OF THE MODEL



FOR PARTIAL DENTURES  
NEY-ORO G-3 NEY-ORO #5  
PALINEY #4 NEY-ORO #6

9NY48

\* Number twenty-two of a series

PUBLISHED BY THE J. M. NEY  
AS A PART OF NEY

No race or country is immune to the disease. In the United States there are over 600,000 diabetics and it is estimated that 2 per cent of the present population will develop diabetes.

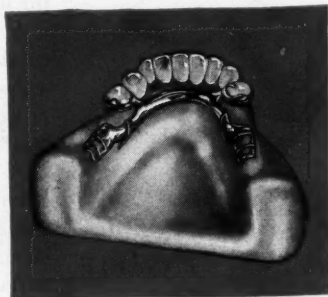
The mortality in diabetes after the age of forty-five is almost twice as high in Jewish as in non-Jewish patients. Heredity is a most important factor. It is believed that the inheritance of diabetes occurs as a Mendelian recessive trait. Overweight per-

sons of families with a diabetic history should be watched for diabetes.

Probably 25 per cent of the population in the United States are diabetic carriers—that is, they may transmit the disease if they marry an individual who is also a carrier.

The disease may occur at any age but is most common between the ages of forty and sixty years. Two thirds of all diabetics are forty years or more at the onset of their disease. It

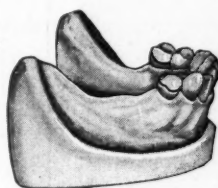
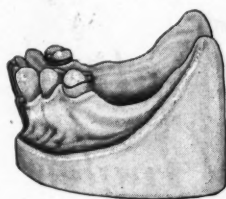
## CASE



In design it is a *mesio-distal grip clasp* and gets its retention by using those very important and valuable undercuts in the distal of the abutment teeth on a free-end saddle case such as the one illustrated. Starting at the mesio-buccal where the clasp is attached to the truss arm, the rigid and bracing portion stays above the survey line and tapers back until it reaches the disto-lingual of the tooth. There it drops below the line for the retention which makes those free-end saddles really stay down.

The flexible strength of gold (and especially Ney partial denture golds) is well suited to the technic of making these "bread-and-butter" cases with back-action clasps and turning failures into practice-building successes.

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is more common in women than men.

The essential pathology is a degeneration of fibrosis occurring in the islands of Langerhans so that a diminished amount of insulin is secreted. The symptoms are loss of weight and strength in the presence of increased appetite. There is an excessive thirst and an excessive intake of fluids with a consequent increased output of urine. And, too, there is an increased blood sugar level with

sugar present in the urine. In women an itching of the genitalia is often noted. Acidosis occurs if the process is not checked. This is due to the incomplete oxidation of fatty acids.

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Dr. Halford

Last night I had a patient call at midnight with a hemorrhage. Within 5 minutes I had the blood under control with a COAGO pad. This patient has always been a bleeder, too. The COAGO pad worked 100%.  
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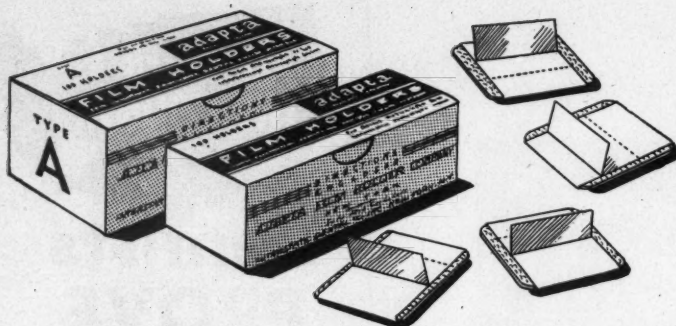
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a period of from eighteen to twenty-four hours. Fewer injections are required. There is no medication which can be taken by mouth as a substitute for insulin.

At the present time diabetes is not curable; the diabetic patient remains a diabetic all his life. No operative procedure, however slight, should be undertaken unless the patient is carefully supervised. He is disposed to calculus formation and periodontoclasia. Pyorrhea and gingivitis are common. Rigid oral hygiene is important. When an extraction is necessary, surgical asepsis is imperative as the diabetic is very susceptible to infections.

Because diabetes is frequently detected in the routine physical examination, everyone should have routine urine examinations at least twice every year after middle life.

Comroe, B. L., Collins, L. H., and Crane, M. P.: *Internal Medicine in Dental Practice*, ed. 2, Philadelphia, Lea & Febiger, 1942, pages 249-263.

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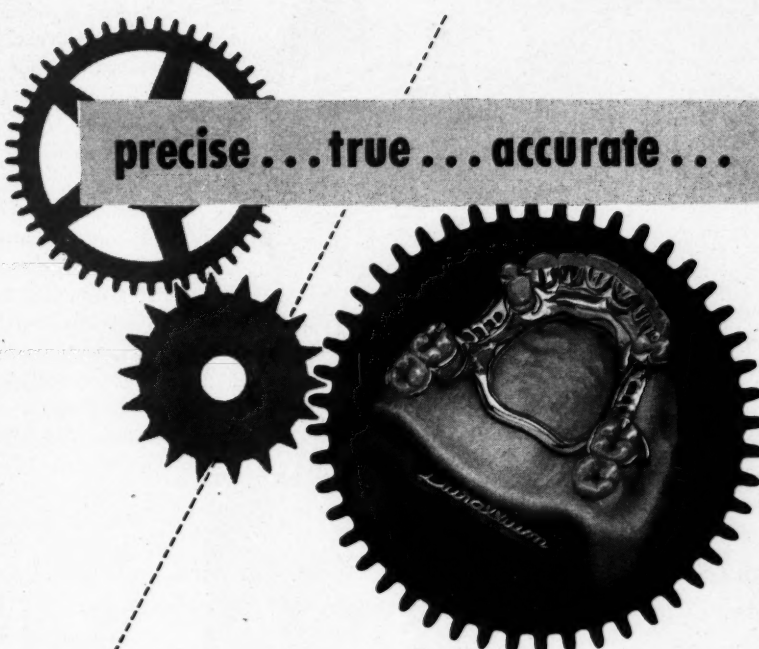
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**To a Pioneer . . .**

It must be fifteen years ago that I met a little, soft-spoken woman with a brave heart. She was Juliette A. Southard, the organizer and the guiding strength of the American Dental Assistants Association. Juliette has been dead for several years, but the girls whom she loved, and who loved her, have not forgotten her. The members of the American Dental Assistants Association have established a relief fund to which they have contributed more than four thousand dollars. The appropriate name is the Juliette A. Southard Re-



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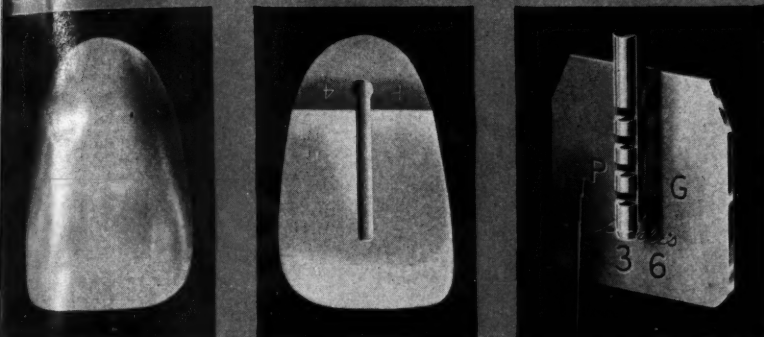
lief Fund. The funds are for the aid  
of their own needy members. The  
money has been collected among den-  
tal assistants from their own earn-  
ings. The girls have asked no help  
from other quarters.

Juliette Southard was a pioneer.  
She had the idea to elevate the stand-  
ards of dental assistants. A few  
dentists saw her idea; most were in-  
different; some were hostile. Despite  
opposition, Juliette was not one to be  
turned back. In her gentle way, she  
organized dental assistants through-  
out the country into local, state, and  
national associations. The girls have  
their own meetings and their own  
publications. It has been my luck to  
attend many of their meetings. For  
decorum and efficiency, most dental  
societies would profit from emulating  
the meetings of the dental assistants'  
societies. Their publication is better  
than the ones produced by a good  
many dental societies.

The girls have accomplished much  
by their own strength of mind and  
heart, often over the opposition of  
their employers. Yet, I know dentists  
who have preferred that their assist-  
ants have no part of an organization  
of dental assistants, and I can guess  
why. Dentists who are afraid to have  
their assistants associate with their  
own colleagues must be fearful of one  
of two things, or both: They fear  
that girls may compare notes with re-  
spect to salaries, and as a result, ask  
for more than their usual and paltry  
thirty-five to forty dollars a week; or  
a dentist may fear that his own in-  
adequacies may be revealed if a den-  
tal assistant compares professional  
notes with her colleagues. There are  
still among us dentists who are so  
far behind the modern ways and  
techniques that they prefer to have  
the secret kept between themselves  
and their long-suffering patients. It  
wouldn't do to have a dental assist-  
ant know too much, these people  
think. I have even heard dentists say  
that they fear a strong dental assist-  
ant's association might be a spring-  
board that would project these  
women into a trade union.

I have known a good many dental

(Continued on page 90)



Not a photographer's model but an actual dental patient. Lost upper centrals, laterals and three bicuspids restored. Name of Dentist on request.

# Old Stuff

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As recently as ten years ago every dentist in the United States—in fact, throughout the entire world—was using the “opaque” type of artificial tooth?

At that time these teeth were heralded as “The finest we humans have devised,” with the further suggestion that only minor improvements were possible?

By February 1938 a new tooth, that had been on the market only a few months, was destined to revolutionize within two years all prior conceptions of what an artificial tooth could be?

By 1940 the old type of tooth with “opaque” enamel was completely obsolete although still in unsightly use in millions of mouths today? Yes, these are facts . . . facts of yesterday . . . facts of progress. In the year 1937 Dr. Myerson introduced to the world several new principles in the science of manufacturing porcelain artificial teeth. These principles had been carefully and thoroughly tested and proven over a period of years before public introduction.

So universally are these teeth accepted today that one can hardly believe the furor that they created at Atlantic City in July 1937 and in the succeeding year or two in other meetings and in foreign countries. At the International meeting at Atlantic City practically everyone was telling everyone else to be sure to see the new teeth. They were the sensation of the meeting.

### **Fundamental Principles . . .**

And yet the fundamental principles of these new teeth were amazingly simple. They were made with transparent enamel instead of the prevailing enamel of quite low translu-

cency and they incorporated simulations of line stains, striations and erosions of natural teeth. Later, simulated fillings were added to create the now famous Characterized anteriors.

The profession immediately recognized the superiority of the new Myerson teeth. Leaders of the profession strongly endorsed them and showed them in their lectures and

clinics. It seems strange that some manufacturers, on the other hand, did not first appreciate the new developments; in fact, they publicly deprecated them. But, in a brief space of time these manufacturers were forced to copy the Myerson tooth. Within two years the once-standard makes familiar to the entire profession disappeared from the market. Gone



mould ha

SEND for this important 14 page booklet describing in full detail the New Myerson System of Tooth Selection.

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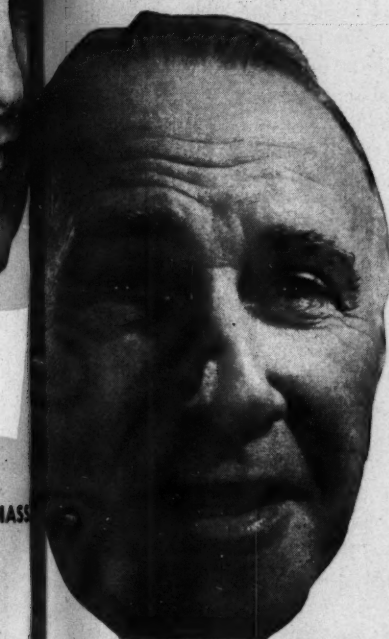
shade are **NOT ENOUGH . . .**

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**S**tudy these three faces. Obviously, different Labial Characteristics are necessary for each . . . yet they require the same mould and shade.

The simple, scientific Myerson System enables you to select a mould and shade for your patient and have that mould and shade in any one of three lines *individualized* according to your patient's requirements.

This facility exists in no other line of artificial teeth.



### Modern-Blend

Faint subtle serrations, no stains

### True-Blend

Hand-blended markings including erosions and stains

### Characterized

Includes simulations of synthetic fillings

### All 3 Lines

are in the same moulds and shades — the same famous Myerson transparent enamel



were the shade guides of such popular brands as Trubyte, New Trubyte, Truform, Ekleform and Nuform and in their places teeth with new brand names embodying the principles of the transparent enamel and line stain simulations appeared.

### Confusion in Shades . . .

These copies, it must be admitted,

did achieve something approximating the Myerson tooth, visually, by 1939. But they were to learn that it is one thing to duplicate the transparency of enamel but quite another to achieve the quality and strength and texture of his porcelain. One maker had such poor luck that in less than a year he was obliged to take back his original stocks and others have

had a high percentage of breakage.

Some two or more years ago another manufacturer gave up the struggle and has receded to a degree of translucency only slightly greater than its former brands. Naturally the teeth of reduced translucency would not match shade guides with actually transparent incisal areas. Consequently this has necessitated the bringing out of new shade guide teeth to replace the original shade guide teeth and will eventually necessitate the changing of the remaining shade guide teeth; otherwise shade guide teeth not replaced will not match current production . . . a rather confusing situation.

### It is a Fact That . . .

When Myerson developed a transparent enamel for his True-Blend teeth he produced an enamel *stronger* than the almost opaque body part of the tooth. There has been no need to reduce the transparency of his teeth because the new Myerson teeth have been far freer from breakage than the old opaque teeth they replaced. Thus it stands today that there is but one line of teeth available that embodies the principles originally incorporated by Dr. Myerson. The teeth of this line are produced under the brand names Myerson's True-Blend, Modern-Blend and Characterized. They have remained basically unchanged except for *ceaseless efforts at improvement* over original high standards.

As shown in the advertisement on this page, a new method of tooth selection has recently been developed and that is Age-Group Selection with the teeth actually adapted to provide facilities for such a selection. This theme will be discussed in subsequent issues.

—The Toothsayer

(Advertisement)

## CLINICAL AND LABORATORY SUGGESTIONS

(See pages 80 and 81)

### Form to be Used by Contributors

To: Clinical and Laboratory Suggestions Editor

DENTAL DIGEST  
708 Church Street  
Evanston, Illinois

From: \_\_\_\_\_

Subject: \_\_\_\_\_

Explanation of Procedure:

Sketch:

\$10 will be paid to author on publication of accepted suggestions.

(Continued from page 86)

assistants. I have found them to have as high a professional sense, and often higher, than the dentists with whom they were associated. The girls who have a mercenary, rather than a professional point of view, are usually mirroring the traits of their employers.

Dentistry itself has gone through struggles for recognition in the last hundred years. Only in recent years has medicine begun to accept the fact that dentistry and dentists have a place in the world of the biologic arts and sciences. This recognition has been hard won. It cannot yet be scored a clear victory. There are still people in medicine who look upon dentists and dentistry as subordinates in training and skill, and not quite entitled to sit at the table of Aesculapius. We who have known this struggle at first hand, or from tradition, should be more conscious of, and understanding toward another group that is making the bid for recognition.

Dental assistants, in common with all people, including dentists, wish to be considered workers in a worthwhile field. They aspire to recognition, reward, and social approval. This is an admirable ambition, and one that dentists should encourage. From our effort as a profession to achieve recognition, we should understand the motives of our assistants to gain acceptance. If dentistry advances, we should wish to see the level of the vocation of the dental assistant raised to a professional plane.

The American Dental Assistants Association has organized a training program for dental assistants that will lead to certification. I liked the vigor of spirit expressed on this subject by President Hadley of The American Dental Assistants Association: "Out of this meeting [Boston] came many developments which have been in progress over a period of years; notably our desire and unswerving fight for higher education, and consequently, an elevated status for dental assistants. The establishment of a Board of Certification and

the adoption of the certification plan together with the proposed six-month extension course of study is of prime importance, and should receive the immediate attention of all affiliated groups." This is the kind of fighting talk that our own pioneers made, when dentistry was fighting for its place in the sun. We, too, pulled ourselves up by our own efforts. Our pioneers battled for "higher education" and "an elevated status." Let's not forget *our* struggle.

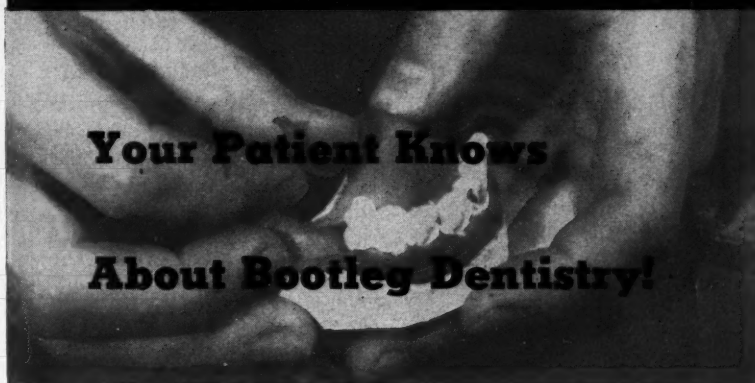
In the effort to take dental assisting out of the preceptor class (from which both medicine and dentistry have evolved) and into the field of a profession, formal resident training at a college level will be required. At first the required training may be one or two college years. In time, we may hope a full college course with a Bachelor of Science degree will be offered. We believe that the public and the profession are entitled to personnel trained at this level. Meanwhile, the women who qualify and are certified by the American Dental Assistants Association should be given bountiful recognition, and their status should carry respect and reward.

Any organization that keeps lighted the strong convictions and the honest faith of a pioneer need not fear failure. The American Dental Assistants Association has been, in the way of women, sagely wise to keep the name and the spirit of Juliette A. Southard alive, and to associate that founder's name with the act of giving. By the sacrifice the dental assistants make to give to the Juliette A. Southard Relief Fund they are doubly blessed: They experience the joy of giving, and they keep alive their founder's faith. Faith: "The substance of things hoped for, and the evidence of things not seen."

### **Charity Should Begin At Home . . .**

The air will be electric with debate as the proponents and the opponents of the Marshall Plan open their voice boxes for all to hear. There will be bunk heaped upon bunk. We must be prepared for this logorrhea. So far,

## **In your ORAL HYGIENE this month**



"Bootleg dentistry," first reported and decried by Oral Hygiene in 1939, is at last being brought to public attention. The January issue of *Woman's Home Companion* carries a feature article warning the public that many dental laboratory technicians are practicing dentistry illegally and are designing and fitting dentures and bridges which may "cause the loss of healthy teeth, disfigure the face, impair the hearing, or, in extreme cases, irritate the mouth enough to cause cancer" . . . and calling for legislative action to stamp out the menace of "bootleg dentistry." If you cannot get a copy of the *Companion* article, be sure to read the summary presented in this month's Oral Hygiene.

★ ★ ★  
"It Pays to Educate"—Doctor Harold P. Winkler, quoting examples from the automotive industry and the medical and ophthalmic professions, recommends that dentistry, too, seek to educate the public through the national advertisements of dental manufacturers. Whether you agree or disagree, you will want to read his short, thought-provoking article.

★ ★ ★  
"The Dentist Needs Training, Too"—A dental assistant explains some of the ways in which a good assistant may help her employer correct habits which handicap his practice.

★ ★ ★  
"Old Age Security for the Professional Man" . . . Out of a hundred men aged 25, fifty-four will be dependent on relatives for charity when they reach the age of sixty-five. Professional men, because they are not included in the government-sponsored social security program, must make their own plans for financial security and retirement. Doctor H. C.

Burt outlines a simple plan by which every dentist can assure himself of an independent old age free from financial worries.

★ ★ ★  
"Dentists Take Long-Distance Postgraduate Course"—Like "carrying coals to Newcastle" to have Scranton, Pa., the home of International Correspondence Schools, become the receiving end of long-distance education. Twenty Scranton dentists recently completed a postgraduate course transmitted from the University of Illinois College of Dentistry by telephone! A direct line between the "classroom" in Scranton and the lecturer in Chicago permitted the dentists to ask questions and take part in discussions.

★ ★ ★  
Taxes again! . . . March 15 is too near for comfort. R. Y. Draper, in an article, "Your Income Tax and Your Real Estate," gives much helpful information to property-owning dentists who may be cheating *themselves* on their tax returns.

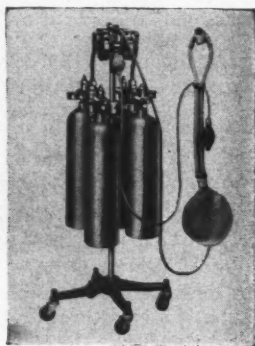
★ ★ ★  
"Delayed Hemorrhage After Tooth Extraction"—Doctor E. A. Franks believes that delayed hemorrhage is often induced by sedatives. He recommends a method by which such hemorrhage may be prevented.

★ ★ ★  
In Britain, your anesthetist rolls up in an automobile with all equipment, administers the anesthetic during the extraction, and then goes off to the next dentist on his list. Basic differences between dental practice in Britain and in the United States are interestingly explained by Doctor John Jacob Posner who reports from personal observation. You will enjoy his article, "Dentistry in Britain Today."



## "Hello, Doctor, this is my dad"

"I told him that you could fix teeth without hurting." Fear of operative pain and the inhibitions borne of previous unpleasant dental chair experiences are not a matter of age. In this respect the man truly is—"but a boy grown tall." Too often this apprehension results in injurious delay until the urging of somebody like young Bill, who has had the good fortune to learn about dentistry with the aid of McKesson analgesia, brings his dentist a new patient. And the dentist adds another unit to his *family practice*.



McKesson nitrous oxide pain control equipment is available in three types: the Nargraf, the Easor and the Euthesor. We would welcome an opportunity to tell you what this equipment can do for you.

NARGRAF



EASOR

EUTHESOR

one sane voice has been heard: That is the voice of the President of the University of Illinois, Doctor George D. Stoddard. This is what he said regarding the need at home:

"There are millions of poorly fed, badly housed children in the United States. The food and materials we ship away are not truly surplus at all. If every American child were fed, clothed, housed, educated, and cared for as we want our children to be, there would be, in fact, a serious shortage of goods and services in the United States . . .

"At the risk of being charged with negligence to our own children, we export vast wealth to other countries. I doubt if one European out of ten knows this, or believes it if he ever heard it . . . We distribute goods willingly to devastated countries simply because we believe their need is greater.

"My hope is we shall not stop there. Since we play a major role in establishing sound economic conditions over the world, we should play an equal role in domestic affairs. A government committed to aid to Greece, without prior public debate on the question, should not throw up its hands in horror at granting aid to Mississippi. The Marshall Plan for Europe needs a supplementary plan for the United States."

In our own field of special interest, we know that children develop dental diseases because of nutritional imbalances. We know that with inflationary conditions, many families cannot be fed with the protective and more expensive foods. If we give our wealth to the world, we create scarcities at home. Scarcities generate and perpetuate high prices. High prices affect nutrition and make it more difficult for the American people to buy the services of dentists and physicians. Thus, the national health suffers and with this kind of impoverishment comes ultimate disaster.

We all admire the unselfish giver but even he should expect the receiver of his bounty to work and sweat and strive to help himself. We have no such assurances from Europe.—E.J.R.



## Alpha-Perles

Containing Chlorophyllin compound, biologically standardized Vitamin D concentrate, together with a proper balance of Calcium, Phosphorous and Colloid Iron. ALPHA PERLES is beneficial and many times corrective when prescribed as a supplementary diet.

Alpha Perles are indicated for pregnant and lactating mothers to meet the demands for an abundant supply of calcium, phosphorous and iron; provides essential elements necessary to the building and proper maintenance of healthy tooth structure.

Simple to take, readily assimilable. Alpha Perles—the medicinal food, overcomes dietary deficiencies. Write today for complete literature and clinical evidence.



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